

Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

Vol. 3.

New York, September 16, 1848.

No. 52.

THE SCIENTIFIC AMERICAN : CIRCULATION 11,000.

PUBLISHED WEEKLY.

At 128 Fulton Street, New York (Sun Building,) and
13 Court Street, Boston, Mass.

By Munn & Company.

The Principal Office being at New York.

TERMS—\$2 a year—\$1 in advance, and
the remainder in 6 months.
(See advertisement on last page.)

Poetry.

THE POOR VOTER.

They knew that I was poor,
And they thought that I was base,
And would readily endure
To be covered with disgrace.
They judged me of that tribe
Who on dirty mammon dote,
So they offered me a bribe
For my vote.

My vote—it is not mine
To do with as I will,
To be cast like pearls to swine,
For these wallowers in ill.
It is my country's due,
And I'll cast it while I can,
For the honest and the true,
Like a man.

Ah no! I'll hold my vote
As a treasure, and a trust—
My dishonor none shall quote
When I'm mingled with the dust.
And my children, when I'm gone,
Shall be strengthened by the thought
That their father was not one,
To be bought.

A CHRISTIAN LIFE.

He envied not the pomp and power
Of kings in their triumphant hour,
The deeds that win a lofty name,
The songs that give to bards their fame.

He sighed not for gold that shines
In Guinea's brooks, in Ophir's mines;
He stood not at the festivals
Of nobles in their gorgeous halls,

He walked on earth as wood-streams pass,
Unseen beneath the freshen'd grass;
His were pure thoughts, and humble faith,
A blameless life, and tranquil death.

He kept, in days of strife and wrath,
The Christian's straight and narrow path;
But weep thou not—we must, not weep,
When they, who rest in Jesus, sleep.

MY MOTHER'S SMILE.

My mother's smile! how oft in sleep
It lies like sunshine on my heart,
Till when I wake, I wake to weep
That such so lovely should depart.

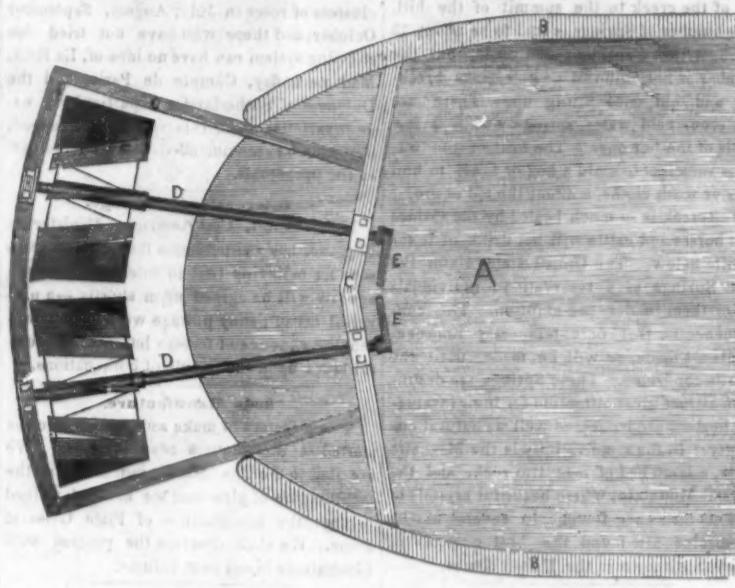
I sometimes sit and dream of fame,
But when I foolishly the while
Would link its glories to my name,
I smile a sad reproving smile.

As o'er I number, one by one,
Through all my youth's misguided years,
The things which I should not have done,
How darkly dim that smile appears!

But when I hush my bosom's wrath,
Or smooth beneath the pilgrim's feet
The weary and uneven path—
O, then that smile is heavenly sweet!

When last I kissed my mother's brow,
She called me a poor orphan child,
And with me in my spirit now
Is the last smile she ever smiled.

BARKER'S TORTUOUS PADDLE WHEEL.



This engraving is a representation of a new plan for propelling vessels, invented by Mr. Benjamin Barker, of Ellsworth, Maine, and which he names the "Inclined Tortuous Paddle." The above engraving is taken from a small model, and its nature will be readily understood. It is a kind of screw and paddle combination applied to the stern, the paddle being somewhat broader at one end. This is a vertical view. A is the interior of the vessel, B B, the sides, D D, are shafts of the paddles, C C is the frame work for the bearings of the shafts, F F, are the paddles of an angular form. These paddles are inclined to each axis respectively at an angle of about ten degrees—with the interior edge inclined at a somewhat less angle than the exterior edge, in proportion as it is nearer the axis, thereby giving the paddle its tortuous form. E E, are cranks for driving D D, by shafts from the engine. As the virtue of this method will much depend on the speed, cog wheels will have to be used, so that the paddle shafts may have a greater speed than the main shafts.

If power be applied to the cranks causing the wheels to revolve and the paddles move towards the centre, as these are immersed in water and inclined in their axis of motion, a speed will be given to a vessel—in the opinion of the inventor—greater than by any

Preservation of Butter.

The method used by the Tartars consists in fusing the butter in a water bath, at a temperature of 100° Fahrenheit, and retaining it quiescent in that state until the gaseous matter has settled, and the butter become clear; it is then to be decanted, passed through a cloth, and cooled in a mixture of salt and ice, or at least in spring water, without which it would crystallize, and not resist so well the action of air. Preserved in close vessels and in cold places, it may be kept for six months as good as it was on the first day, especially if the upper part be excepted. If, when used, it be beaten up with one sixth of cheese, it will have all the appearance of fresh butter. The flavour of rancid butter may be removed almost entirely by similar melting and coolings.

The Copper Ore from Cliff Mine, Lake Superior, is being smelted at Pittsburg, Penn. It yields from eighty to ninety per cent pure copper, in addition to a small quantity of silver.

other method of propulsion. Many plans of propulsion have been tried and set aside, and for that reason there are few who will express an opinion, but from beholding an experiment. Experiment indeed is the only true test of utility. Yet the screw has its defenders and friends and many eminent men believe it to be superior to the paddle wheel. The paddle wheel again has its friends, and we must say they are not yet driven to the defensive, in regard to its merit. This combination propeller of Mr. Barker is different from any that we have seen proposed. The only resemblance to it to our knowledge is that of Daniel Bernoulli, and his differed materially in the arrangement, which was not so good. Bernoulli's plan consists of planes immersed in the water parallel to the sides of the vessel and turned in a collar which moved in a plane perpendicular to the keel, and which were thus to move the vessel forward. It requires both time and many experiments to perfect every invention, and there are some things about this that may be modified for the better, such as a greater incline of dip in each wheel, but when we talk about these things, we should not forget that "Morgan's Paddle Wheel" that lay dormant so long on the other side of the Atlantic, is now coming into general use although it was long neglected and despised.

Chinese method of making Sheet Lead.

The method of making sheet-lead employed by the Chinese, is carried on by two men. One is seated on the floor, with a large flat stone before him, and with a moveable flat stone-stand at his side. His fellow workman stands beside him with a crucible filled with melted lead, and having poured a certain quantity upon the stone, the other lifts the moveable stone, and dashing it on the fluid lead, presses it out into a flat and thin plate, which he instantly removes from the stone. A second quantity of lead is poured in a similar manner, and a similar plate formed, the process being carried on with singular rapidity. The rough edges of the plates are then cut off, and they are soldered together for use.

It appears, from a return just made to Parliament, that the declared value of British machinery and millwork, exported from the United Kingdom in the year ended on the 5th of January last, was £1,263,015.

RAIL ROAD NEWS.

Norwich and Worcester Railroad.

The Norwich and Worcester Railroad Company have sold their boats, the Worcester, Cleopatra and Knickerbocker, to Drew, Newton, Coit & Co., by which operation the debt of the Company has been reduced some \$200,000. The Directors are introducing economy into the management of the road, which will make a very large reduction in the yearly expenses.

The Broad and Narrow Gauge of Rail Roads.

The value of the broad and narrow gauge, so far as profit and loss in concerned, seems to be in favor of the narrow, as being less expensive according to the practical working of both systems. The question in a mercantile light has lately been examined in England by commissioners appointed for the purpose. It is to be hoped that the New York and Erie may prove an exception to this conclusion, at least, that it may be equally profitable as any other line.

A Funny Railroad Accident.

On Saturday evening the 2d inst, as the last train of cars from Lowell was approaching Boston two of the hindmost cars accidentally parted from the train in Medford, about five miles distant. The occurrence was not discovered, however, until after the conductor had stopped in the city and returned to the depot, when he was astonished to find that two of his cars, containing some 100 passengers each were "among the missing". He instantly dispatched a locomotive on the return track, and the lost cars, with their population, were brought into the city after a detention of about an hour and a half, by this both amusing and vexatious oversight.

Tribute of Respect.

By the Reading Pa., Herald, we learn that the mechanics at Reading R. R. machine shop have presented Mr. L. J. Kirk, the master machinist, with a splendid silver pitcher and silver goblets as a mark of esteem. The present is a magnificent one. The pitcher and goblets are beautifully chased with figures representing railroad cars, with a figure of the patent steam hammer invented by Mr. Kirk. We take great pleasure in noticing such instances of good will among mechanics and their employers. The utmost good feeling and good will in workshops among the whole of the hands is a source of great pleasure.—More work is done and done better, in such shops.

Current of Niagara.

The current of the Niagara river, for the first five hundred feet below the Suspension Bridge, runs at the rate of nineteen miles per hour; for the next eight hundred feet it runs at the rate of twenty-five miles per hour—giving an average of about twenty-three miles per hour for the first quarter of a mile below the bridge.

Iron Dross Fings.

In extensive furnaces and iron works, the dross or slag collects and is thrown out as useless. A French mechanist, some years ago, devised the plan of making a good use of this material. He accordingly laid moulds, or forms in a situation to allow the dross to flow into them. The dross is allowed to cool very gradually, so as to render it tough; and to effect this, the forms are placed so as to receive a portion of the surplus flame of the furnace. The inventor thus forms flag stones, blocks for building, or for paving and other useful purposes, and they have been found to be very durable and convenient; exhibiting a hardness in many instances superior to granite.



Destructive Fires.

If we spoke in reference to judgments of an appalling nature, we might distinctly point to the devastating fires that have lately scourged several cities of our land. Not long since one sixth of Albany fell a prey to the devouring element, and on Sunday morning last a destructive fire laid over two hundred buildings in the city of Brooklyn in ashes. Lives have been lost at all of these fires and this is the most heart rending circumstance connected with these calamities. One of the most distressing events that ever occurred was the burning of the splendid packet ship Ocean Monarch in the English Channel, the news of which was brought out by the Hibernia. No less than 181 human beings perished, some by the flames, others by falling spars, and others drowned.

Shock of an Earthquake.

Two shocks of an earthquake were felt in this city and vicinity, on Friday night last week about half past ten o'clock. The first shock was very slight, lasting nearly a minute. It was more of a tremulous motion than a shock. About one minute after, another shock was felt—a short, quick, jerking, undulating motion, accompanied by a rumbling noise, like a heavy vehicle passing rapidly over the pavement. The second or principal shock lasted only five or six seconds. In New Jersey its duration is stated to have been eight or ten seconds. On Long Island, the second shock and the sound appeared to come from the north, passing southward.

We felt the shock with terrible distinctness and had it been 1843, we would have been thinking about Father Miller. We believe however, that the shocks were from the south west, in the great line of the galvanic current. The resistance to the current must have been towards the North East.

Coal and Gold.

From the annual report of the Director of the U. S. Mint, it appears that the value of all the gold coined in the U. S. mints for twenty four years prior to 1847, was \$12,741,653, or somewhat exceeding the average sum of half a million a year—a very considerable addition to the stock of American wealth; but it appears from the returns of the coal trade in Pennsylvania that the value of this commodity brought to market in that State is annually equal to the above large amount:—the last year, for example, the value of her anthracite brought down to tide-water—nearly 3,000,000 tons—was actually equal to the value of all this gold dug up in the South during the whole twenty-four years. From this it appears that our Northern (Maryland as well as Pennsylvania) coal mines are more valuable gold mines than those of the South.

A Mexican Churn.

The Mexicans have a peculiar churn, which may probably suit a certain class of community right well. It puts all others far in the back ground, as it has the merit of delivering the butter fresh at the doors of their customers. It is described thus:

"Two tin cans are enclosed in a green cow hide, the size to correspond to the quantity of milk. The hide on drying will shrink and adhere to the cans. These cans are partly filled with milk, and placed on a hard trotting horse like saddle bags; a person then mounts the horse and rides seven or eight miles into the city; the motion of the horse effects the separation of the butter from the milk, and the rider has only to pocket the cash for his butter and buttermilk, and wend his way home at his leisure."

So scarce are laborers in Australia, that the wagons in which copper ore is conveyed from the mines to Adelaid, where it is shipped to England, are driven by boys between ten and fifteen years of age.

In 1847, there were 740 patents granted in England, and the fees amounted to £32,977.

The Hot Springs of Arkansas.

In the State of Arkansas there are some singular springs to which are ascribed some medical virtues and are a subject of no little wonder. They are in Hot Springs Co., about 60 miles west of Little Rock, on a creek, which empties into the Washita river, 6 miles distant, in latitude 31°. The creek, which rises in the mountains some 4 miles above, winds its way between two hills, running north and south, with a valley between, and which is in some places fifty, and in some one hundred yards wide. On the side of one of the hills, which is very precipitous, and rises to the height of 100 feet the Hot Springs break out in various positions, from the margin of the creek to the summit of the hill. The number of Springs is said to be about 75 or 80, within a space of 500 yards, but the number is not uniform, new springs breaking and old ones filling up. There are numerous cold water springs within a few yards of the hot ones. The heat of the water is sufficient to scald a hog or fowl, to boil eggs or wash cloths, without the aid of fire.

The creek is so much heated by the springs that horses and cattle will not drink of it for a mile below. The United States claim the Hot Springs as a reservation; individuals claim them under pre-emption. The consequence is, that only temporary improvements are made, or will be made, until the title is confirmed. These Springs are destined to attract great attention for their invaluable healing properties, as well as natural curiosity. In the same vicinity is the Magnetic Cove, a large bed of magnetic rock, and the Crystal Mountain, where beautiful crystals of various forms are found. In several of the mountains are found the best quarries of whetstone known in the United States.

Mrs. Fry's Rules.

First, never lose any time; I do not think that lost which is spent in amusement or recreation, some time every day; but always be in the habit of being employed. Second, never err the least in truth. Third, never say an ill thing of any person, when I can say a good thing of them: not only to speak charitably, but feel so. Fourth, never be irritable or unkind to any body. Fifth, never indulge in luxuries that are not necessary.—Sixth do all things with consideration, and when my path to set right is more difficult, feel confidence in that power alone which is able to assist me, and exert my own powers as far as they go.

Flowers and the Law of Gravity.

As an instance of the adaptation between the force of gravity and forces which exist in flowers—some flowers grow with the hollow of their cups upwards; others "hang the pensive head," and turn the opening downward. The positions in these cases depend upon the length and flexibility of the stalk which supports the flower, or in the case of euphorbia, the germin. It is clear that a very slight alteration in the force of gravity, or in the stiffness of the stalk, would entirely alter the position of the flower-cups, and thus make the continuation of the species impossible. We have, therefore, here a little mechanical contrivance, which would have been frustrated if the proper intensity of gravity had not been assumed in the reckoning. An earth, greater or smaller, denser or rarer than the one on which we live, would require a change in the structure and strength of the footstalks of all the little flowers that hang their heads under our hedges. There is something curious in thus considering the whole mass of the earth, from pole to pole, and from circumference to centre, as employed in keeping a snowdrop in the position most suited to the promotion of its vegetable health.

Martin Goldsborough, Esq., of Talbot county, Md. has a farm containing about 240 acres of cleared land, which divided into three fields makes 80 acres each. Having accurately laid off one acre, and measured it, it was found to yield the enormous quantity of fifty odd bushels of wheat—and if the balance should give the same yield, it will be upwards of 4,000 bushels on eighty acres.

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Perpetual Roses.

Many cultivators of this fine new class of roses, "waste its sweetness" by allowing it carry all its blossoms in the month of June. Now to have the perpetual rose fully enjoyed, it should not be allowed to bloom at all in rose season. Roses are so common then that it is not at all prized while blooming, from midsummer to November it is highly prized by all persons.

The way to grow it in perfection, is to pinch out, as soon as visible, every blossom bud that appears at the first crop, say from the middle of May to the middle of June. This reserves all the strength of the plant for the after bloom; and accordingly you have large clusters of roses in July, August, September October, and those who have not tried this stopping system can have no idea of, La Rein, Madame Laffay, Compte de Paris, and the Dutchess of Sutherland are particularly superb varieties under this treatment. Indeed, they may be recommended as among the best in the perpetuums.

International Postage.

Mr. Bancroft, the American Minister in England, has written home that there are reasons for believing that an international postage law will be agreed upon shortly,—a universal ocean penny postage we hope; at present the expence of foreign letters are beneficial taxes upon the people of both nations.

Soda Manufacture.

A new factory to make soda is about to be started at Birmingham near Pittsburg. We are glad to see this. Soda is much used in the manufacture of glass and we are determined to urge the manufacture of Plate Glass at home. We shall describe the process with illustrations in our next volume.

Death of Berzelius.

A letter from Stockholm, Sweden, announces the death, on the 7th of August, of the illustrious chemist Berzelius, aged 69 years.

Berzelius was a great man and his name is familiar to every one who has taken an interest in modern chemistry.

Drinking in the dark.

It is reported there is a young lady residing in Coeymans, county of Albany, N. Y., who eighteen months ago drank with water in the dark, a small snake, since which time her body has grown nearly as large as a barrel, and the physicians attending her say the snake now is about the size of a man's arm. All fudge.

Pictorial National Library.

The publishers, Wm. Simmons & Co., No 12 School st., Boston, have kindly favored us with the September number of the above magazine, which we have perused with much interest. Each number contains 52 pages, is full of original engravings, and published monthly at \$2 per annum.

New Project for Reporting.

A corps of Phonographers, reporters and compositors, is about to be organized in Philadelphia, to do the Congressional reporting. The duty of the compositors will be to set up the type directly from the report, and it is said that this is not only feasible but has been often done.

On the evening of the 7th ult. two balloons started at the same moment from the Cremorne Gardens, London, for a race, each containing four persons. The weather being clear and favorable, the sight was very interesting.—Lieut. Gale commanded the "Royal Cremone," and Mr. Gyson the "Royal Albert." The ascent was imposing and magnificent; they kept so near together that the voyagers could hear each other's voices. They attained an altitude of a mile and a half and descended without accident, near to each other, about sixteen miles from London.

A new spring of iodine has been discovered between Toeltz and Heilbronn (Bavaria); it is supposed to communicate with that of Adelaide.

Ireland pays some \$3,500,000 per annum for the support of a church establishment, in which not over 700,000 of her people feel the slightest interest.

TO CORRESPONDENTS.

"J. M. of Pa."—We have forgotten what your question was in regard to the mandril. When you write again please tell us. We are obliged to you for the drawing you sent, and shall probably have them engraved during the volume. You can obtain all the information you desire relative to Parker's Water Wheel, by directing a letter to O. H. Parker Esq., care Sutton & Smith, Philadelphia.

"F. G. of Long Island."—The Prairie Plough made at Chicago, is the invention you have probably heard of. Its cost is about \$25 we think, but as to its capabilities we are uninformed.

"S. N. P. of Mo."—There is no question of the practicability of your plan, but there is of its utility. No boat would use it. A slight derangement would prevent its operation, and as every part of an engine should be daily cleaned, the person cleaning it would be likely some day, to set a screw wrong. Of all means for preventing explosion in boilers, resulting from low water therein, the steam whistle alarm is the best. This invention, an engraving of which appeared in the Scientific American a few weeks since, is fast coming into use. We shall make no charge but should be glad to have you use endeavours to obtain for us a few subscribers in your place.

"G. V. of Rhode Island."—We do not know where the gentleman you refer to resides.

"H. G. of Pa."—All the information you desire will be published before long in the Scientific American.

"T. E. S. of Pa."—The air chamber placed on water pipes near the orifice for discharge, has long been known and is in common use. You could not obtain a patent.

"L. M. W. of N. Y."—Your plan for a Corn Sheller is new, we believe. We understand the principle and consider it good. The \$3 you enclosed came duly to hand.

"J. F. M. of Pa."—Your improvement for spirit lamps is not new. It is in common use and you could not obtain a patent.

"R. R. of Penn."—The copal must be made without oil. For this purpose it must be mixed with borax, and then it will dissolve in pure alcohol or turpentine. Triturate the two in a mortar before using the alcohol which should be heated with the mixture in a long necked bottle. The balsam will then mix as one to three, when a little warm. This is the direction we have got.

"Z. C. of Iowa."—Your plan for working cranks for paddle wheels is different, but not half so good as that in common use. We have always considered that atmospheric air was necessary to produce butter. Some valuable information upon all the subjects you have named will be published during volume 4. We cannot tell the whole cost of the patent till we see the model of the thing to be patented.

"R. S. L. of R. I."—We shall have several hundred copies of vol. 3 bound which will be ready for delivery in about 2 weeks. Price \$2 75.

"W. S. of Vt."—Mr. Z. Parker is at present residing at Philadelphia.

We have several communications on hand, which are necessarily delayed. We will attend to them as soon as possible.

A Characteristic Present.

A splendid plough has been presented by some agriculturalist, to Hon. J. W. Farally, member of Congress from Crawford, Pa., for his defeat of the attempt to have Wood's plough again patented; Wood being dead some twenty years, and speculators having the matter in their own hands. Now only that Mr. Farally sifted this case to the bottom, we believe that the patent would have been obtained. The Bill passed the Senate, but was nailed to the floor of the House.

The question between Mr. Ellet, engineer, and the directors of the Niagara Bridge Company as to who shall receive the tolls arising from passengers who cross the temporary bridge, has been referred for legal decision. Wagons weighing two tons have crossed it.

American Arts and English Generosity.

Although the following article is somewhat long, we trust that it will be read attentively.

England is a nation so truly great, that she might well afford to be somewhat generous. In whatever is splendid of arts or of arms—for all that has tended to promote the physical welfare of our race, or that has contributed to elevate the dignity of our nature, she stands justly pre-eminent. And it can be a matter of regret, only, that distinctions so justly due, and so freely conceded—distinctions, we are sure, which no true American would either deny or diminish—should have any of their lustre tarnished by her assumption of honors which belong to others—honors which would add not a cubit to her lofty stature, and could only deprive a generous rival of an elevation which she seeks in due progress to attain—Yet we believe that there has been scarcely one great invention of our country which Englishmen have not claimed as their own. The steam engine, our own exclusively, if Robert Fulton was an American, has been appropriated by Englishmen as being, in its essence, British discovery. The compound blow-pipe, one of the most useful inventions of American science, has been denied to us altogether by some of the chemists of England; and while unable to deprive us of the fame of the "magnetic telegraph," she has yet destroyed the grace of a generous concession, by attempting to show that Mr. Morse was largely indebted for his original ideas to others. It has fared the same way in the learned professions. Operations in surgery, first performed by Dr. Physic, of Philadelphia—but the sound of which he did not care to send forth into all lands,—were afterwards repeated in London, and then trumpeted in "The Lancet," an English journal, as evidences of the ever pre-eminent rank of British surgery. And a lawyer of Westminster hall has just published, under his own name, a Treatise upon Evidence, which copies so large a part of the work on the same subject by Professor Greenleaf, of Harvard University, that no American bookseller has dared to reprint it less he might incur the penalties of violating the copyright. But the most bold of all the British assumptions of American genius which we have yet seen, is that of Blanchard's well-known "Machine for Turning Irregular Forms," a modification, as some of our readers may know, of the turning lathe, by which the workman is able to re-produce, out of ivory, metal, marble, or other hard substance, an exact fac-simile, reduced or enlarged to any size, of any irregular figure which can be inserted in the machine; and by which the most elaborately wrought pendants of flowers, alto and basso reliefs of involved groupings, and statuettes of the minutest size, can be cut after any given model, by the commonest workman, by a horse, or by steam, with a delicacy, expressiveness, precision and perfection, which it is not too much perhaps to say could not be achieved on so small a scale by the chisel of Mr. Powers himself. Of the American priority of this invention, we will speak directly. In the meantime, let us mention that a recent number of the London Art Union lauds and magnifies, as a new and wonderful proof of British genius, a machine just patented in England, by which it is announced that "any solid form can be copied which the mind of the artist can conceive, or the hand execute," and felicitates its readers upon the astounding intelligence that "statuetts of the most finished form, retaining the delicate touches which are the charm of their originals," can be carved by this newly invented lathe. Now, for the benefit of our English friends, we beg to inform them that the invention of our modest countryman, Mr. Thomas Blanchard, of Boston, has been known and used by American mechanics and men of science, for about 30 years; that it has been thrice patented by Congress, and its publicity, as Americans supposed, thus reasonably secured; that the originality of Blanchard's invention has been repeatedly established by Judge Story, and other eminent jurists, of whose opinions we dare not suppose Englishmen to be entirely ignorant. Indeed, a specification of the invention was published, if we remember, about the year 1820, in the well-known London

"Journal of Arts and Sciences." The invention itself, in its application to cutting gun-stocks, has long been in use in the public armory works of the United States at Springfield, and other places visited by vast numbers of English travellers in this country; and we may even say that its merit has been acknowledged by "as handy men as ever trod on neat's leather," since a vast proportion of all the shoe lasts of our country are cut by it. In its application to the fine arts Mr. Blanchard's name has not been so extensively known only because the fine arts are so much less profitable in our country than the useful; but for years and years past, his machine has cut, at his factory in Boston, statuettes from marble, and cameos and intaglios from shell, with the precision and beauty of Italian hand-work. Any of our readers who may visit his factory there or the office of Mr. A. K. Carter, at Newark, N. J., to whom Mr. Blanchard, we are told, has assigned his patent for those regions, may see statuettes of Webster, Clay, Gen. Taylor, Judge Woodbury, and other gentlemen, which will justify the enigma which the London Art Union bestows upon the productions of the British machine. The machines, in short, are identical, the only difference being that the American one is about thirty years the oldest.

The history of men of genius is too often a sad one! They pass their own lives in researches and labors, of which others alone derive the benefits. They generally fail to gain bread. It is too bad not to let them have glory!

[The above article is from a late number of McMakin's Model Courier, which came to us marked for particular examination. It is much longer for our columns, as an extract—than we are in the habit of selecting, but we could not condense it without altering it for the worse. The English invention which is the subject of the above article, was noticed on page 240 this volume Scientific American. We stated at the time, our apprehension that it would conflict with American patents. We have never seen the machine, but the principle of it as described to us, appears to be the same as Blanchard's. The motions are different this far, that the cutter wheel of the English revolves in a stationary frame, and pattern and rough material to be turned, move horizontally and revolve at the same time. Now Blanchard's machine is superior to this but is the same in principle; for the difference is simply this, that Blanchard's cutter moves horizontally carrying the cutter wheel from end to end of the lathe while the pattern and rough material revolve in a swinging frame. The cutter wheel however, has not an eccentric motion as we hastily mentioned in our last, having somehow overlooked the error; but it may be said to cut eccentrically, as it cuts out or turns any form whatever of the pattern. We like to give "honor to whom honor is due," and we agree in sentiment and with the general tone of the above article, but the author has made a mistake in attributing to Robert Fulton the invention of the steam engine. The first engine that Robert Fulton employed on the Hudson was built in Birmingham by the celebrated James Watt.—(What would we not give to have that steamboat and engine with us now, what mementos of two great men.) Robert Fulton was the first successful steamboat inventor, no man can rob him of that honor.

As it respects American and English inventions, the English journalists have blamed us for stealing their inventions, as is stated in the above article. The Scientific American was snarled at last year by Mr. Johnstone of the Glasgow Practical Mechanic, and blamed for "taking British inventions, and tacking Yankee names to them." Now this we have never done to our knowledge, we always give the inventor his due let him belong to what country he may. But to carry out the "free trade" principle of Mr. Johnstone, he published Fitzgerald's cannon from the Scientific American without saying a word about where he got it, and this after having blamed us for the same practice. We do not pretend to enlighten the able editor of the Practical Mechanic in scientific matters, but we certainly can in temper, candor and language.

In some things the British are our superiors—in others we are their superiors. In tools and wood work, we surpass them in heavy machinery, they are ahead of us. This however, cannot be long, for we have a wider field for display—we are more energetic, and it only wants a few rich men, like Mr. Collins of this city, to invest capital for a few years in constructing large steam vessels, &c., when our supremacy will be heralded in mechanism as in politics "Westward the star of empire takes its way."

Congreve Rockets.

The rocket is a cylinder of iron, differing nothing in shape or proportion from the paper rocket used in fireworks; it is also furnished with a stick as they are, and fired in the same way. The difference and the secret, whatever it may be, is in the composition, which, though in appearance is like an ordinary gunpowder paste, is of so firm a consistence, as to equal in hardness the iron which surrounds it. The diameter of the largest rocket hitherto used in bombardment, was eight inches; of the smallest used in field service something less than three inches; in all cases the length of the cylinder is eight times its diameter. The flight of rockets, too, varies between one thousand and two thousand five hundred yards in proportion to their size. Those intended for a bombardment are usually armed with shells, containing twenty pounds of powder, and a strong iron case of combustible matter, whose violence is extinguishable. For field service, they are either armed with shells, or the top of the rocket formed into a mortar, which may be made to discharge at any period of its flight, from fifty to two hundred musket-balls. Three field rockets may easily be carried by an infantry soldier, and they need no other apparatus for firing them than such as may be made from six muskets and a halbert, should not a bank or wall present a more convenient stand. No rocket of more than three hundred pounds has yet been used even in bombardments; but some time ago, Sir William Congreve, the inventor, proposed the use of rockets exceeding a ton in weight; these were to carry each several barrels of gunpowder in a massive base of steel; whenever they stuck, the impetus of their prodigious weight would force them indifferently through earth and mason work; thus heaving into the very centre of the enemy's fortification a mine whose explosion would leave but little trace of the curtain, tower or bastion on which it should alight.

Introduction to a Philosopher.

I must relate the circumstances of my first introduction to the learned Professor Cramer, since they were truly original. He had a country house in the suburbs; and when I called to pay my respects, I was told I should find him in his garden. I heard the sound of laughter and merry voices as I approached, and saw an elderly gentleman bent forwards in the middle of a walk, while several boys were playing leap-frog over him. A lady who stood by him said, as soon as she perceived me, "Cramer, Steffens is there."—"Well (he said, without moving,) leap then. I was delighted with the new mode of introduction to men of science, took my leap clean over him, and then turned round to make my bow and compliments. He was delighted; and as my good leap also won the hearts of the young people, I was at once admitted as an acquaintance in the happy circle. Notwithstanding this quaint reception, Cramer was a man of deep reflection, with all the quiet manner of a true philosopher.—Steffens' Journey to Paris.

Test for the Purity of Wine.

Put into a phial sixteen grains of sulphure of lime, (prepared by exposing to a red heat, in a covered crucible, equal weights of powdered lime and sulphur) and twenty grains of super-tartrate of potass (cream of tartar)—Fill the phial with water, cork it well, and shake it occasionally, for the space of ten minutes. Separate the clear liquid by decantation, and preserve it in a well-stopped bottle for use. A portion of this liquor, fresh prepared, when added to wine containing lead, produces a blackish precipitate.

Printing in America.

The first paper mill in America was erected in Boston, in 1730, the legislature of Massachusetts granting aid. The first type-foundry was established at Germantown, Pennsylvania, several years before the Revolution, from which the Bible and other works were printed in the German language. As late as 1810 there were but three type-foundries in the United States. The first printing-press in the colonies, and for twenty years the only one in North America between the Gulf of Mexico and the Frozen Ocean, was established at Cambridge, in 1638. It was nearly a century later, (1727,) before the Virginia colonists permitted a press to be set up. Rev. Jesse Glover procured the press used at Cambridge, by contributions of friends of learning and religion in Amsterdam and in England, but died on his passage to the new world. Stephen Day was the first printer, and as such received a grant of 300 acres of land. The third book published was "The Psalms in Metre." In 1651, the New Testament and Baxter's Call translated by Elliot into Indian language, were printed, at a cost of some £1,200. The whole Bible was printed in 1663. The nation speaking this language is now extinct.

The first Newspaper printed in the North America colonies was called "The Boston News-Letters," and was issued in 1740, by John Campbell, a Scotchman, who was postmaster and a bookseller at Boston. Sometimes it had one advertisement, and often none. After fourteen years, when 300 were sold, the publisher announced that his weekly half sheet being insufficient to keep up with the foreign news, he should issue an extra sheet each fortnight; which expedient he announces, after a year, has enabled the "News-Letter" to recover eight months of the thirteen that it was behind in the news from Europe; so that those who would hold on the next January, (five months,) might expect to have all the arrearages of intelligence from the old world "needful for to be known in these parts." After sixteen years, the publisher gives notice that copies of the "News-Letter" would be "printed on a whole sheet of writing paper, one half of which would be blank, on which letters might be written," etc.

Such was the infancy of newspaper enterprise in this country. What a change since then. Could John Campbell step into the office of one of the "dailies," with its press rolling out 8,000 or 10,000 sheets in an hour, what would be his emotions?

Harding the Painter.

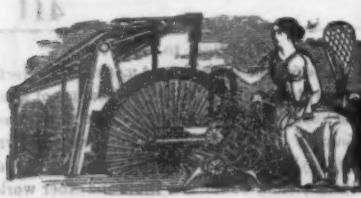
We find the following pleasant notice of Mr. Chester Harding, in Catlin's recent work.

"The next morning, at the hour named found me at the door of the palace, where my name was recognized, and I at once was ushered into the apartment of the Duke [the Duke of Sussex], where I found him in his arm chair, wrapped in his morning gown of white flannel, and his head covered with a cap of black velvet richly embroidered with gold. He rose and took me by the hand in a cordial manner, and instantly led me to another part of the room, in front of a portrait hanging on the wall. 'There,' said he, 'do you know that face?' 'Very well,' said I; 'that is the portrait of John Hunter; it is an admirable likeness, and looks to me like a picture by one of our American artists. If I had met it anywhere else but in this country I should have said it was by Harding, one of our most valued portrait painters.' 'Well,' said he, 'you know that portrait too, do you?' 'Very well; that is his royal highness the Duke of Sussex.' 'Well,' said the Duke, 'now I will tell you, they were both painted by Mr. Harding. Harding is a great favorite of mine, and a very clever artist.'

The Drunken and Snake.

Two gentlemen coming up St. Louis street, New Orleans, had their attention excited by a peculiar noise at the corner of Franklin and the former street. Looking about, they found a drunken man lying in the gutter, with a snake wound round his body. They despatched the snake, which measured eleven feet in length, and had the man taken care of.

Some will no doubt be calling this a snake story,—the same here.



New Inventions.

Improved Parasols.

A patent has been secured lately for an improvement in ladies' parasols whereby a circular spring of india rubber is applied to the ribs, which performs wonders in the fashionable world. A small ring of the vulcanized india rubber is placed around the ribs at the point at which they meet at the apex of the parasol; when the ribs are expanded the elastic power of the ribs enables it to be stretched, so as to suit the exigency, while its power of contraction is so great that it forces the ribs together and keeps them compressed. By touching a spring at the handle, the ribs expand to the utmost tension in a moment. The peacock has long borne away the palm of victory for a sudden show of his fan like showy plumage, but here comes art in the shape of a new parasol, and eclipses the oriental bird in a twinkling.

New Coffee Pot.

A new coffee pot, named a French coffee maker, has just appeared, and for warm weather is a most useful and beautiful invention. It consists of a cup of the capacity of a pint, placed upon a metal plate, upon which spirals of wine being ignited will boil the coffee in a very short time, the cup having been supplied with water, and a small quantity of ground coffee. The effects of the heat not only produces coffee, but actually causes it to run in a small spout issuing from the side.

We do not know where these coffee pots are made, having only heard of their existence. We are positive that improvements in cooking utensils might be made so as to cook with flame of gas, and if gas could be supplied at a cheap rate to private families, a great saving would be effected. The gas consumed for cooking would be no more expensive than charcoal, and the trouble and disagreeable kindling of furnaces would be entirely dispensed with. In point of cleanliness, the gas would certainly supersede the coal, although it might cost more. There are great improvements yet to be made in domestic economy.

New Knitting Machine.

Mr. O. C. Phelps of Mass., has recently made some very important improvements in the knitting machine, whereby stockings may be knit whole, legs and all, without seam.

Improved Strainer for Pails.

Mr. William Cooley, of Geneva, N. Y., has invented and applied for a patent for new and useful improvement of attaching a strainer to milk pails, which appear to be as valuable as the improvements which have lately been made on churns. His plan is to have the strainer fit on to a tube or spout on the pail by a screw or slide, so that it can be put on and taken off at pleasure, thus rendering the strainer easier cleaned and at the same time one strainer will answer a number of pails better than a sieve and at one-fifth the expense.

New method of Silvering Glass.

The London Atheneum states that a Mr. Drayton of Regent street, that city, has discovered a new process of silvering glass which will entirely do away with the old, injurious, and dilatory process of silvering by mercury and tin. Nor is this its only advantage. The silvering is richer in its texture than that produced by the old process; and it may be touched with the finger and still left unburnished. This important improvement is produced by a solution of nitrate of silver in water and spirit mixed with ammonia and the oils of cassia and of cloves. Some of the glass thus silvered is extremely beautiful.

A Boating Tunnel.

One of the most extraordinary plans submitted for the approval of the French Academy of Sciences is that of M. Ferdinand, engineer, who proposes to construct a floating tunnel from Calais to Dover, for the wires of the electric telegraph, and large enough to be traversed by small locomotives, for the conveyance of passengers. The plan was referred to one of the members of the academy for examination.

A tunnel for the wires of the electric telegraph across a channel only 25 miles broad, we believe to be perfectly practicable and require no great genius to conceive or construct, but a floating tunnel for locomotives is as posterior as it is useless.

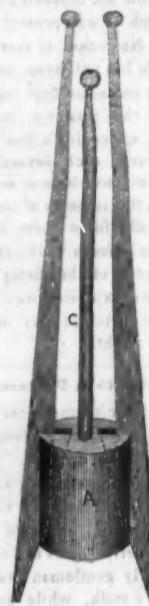
Process for preserving Milk for any length of time.

This process, invented by a Russian chemist named Kirkoff, consists in evaporating new milk by a very gentle fire, and very slowly, until it is reduced to a dry powder. This powder is to be kept in bottles carefully stopped. When it is to be employed, it is only necessary to dissolve the powder in a sufficient quantity of water. According to M. Kirkoff, the milk does not lose by this process any of its peculiar flavour.

Artificial Preparation of Ice.

After numerous trials made by M. B. Mujlink with different salts, for the purpose of converting water contained in a tin vessel into ice, during their solution, he ultimately gave the preference to a mixture of four ounces of nitrate of ammonia, four ounces of sub-carbonate of soda, and four ounces of water. This mixture in three hours produces ten ounces of ice, while with the mixture of sulphate of soda and muriatic acid, he obtained ice only after seven hours.

Improvements in Blasting.

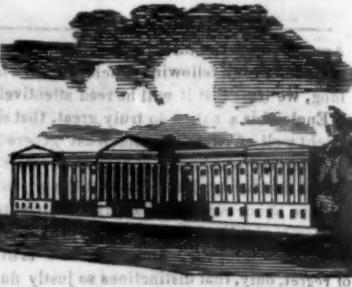


This engraving represents an iron wedge wad, invented for the purposes of blasting by Elizur Wolcott, of Thompsonville, Connecticut. Those who are acquainted with blasting will immediately perceive that it is a new and beautiful improvement.

The improvement consists in employing a circular wad with side wedges which fit into grooves—one on each side. A, is the iron wad, and B B, are the side wedges. C, is the handle of the wad. When the wad is seated upon the blast the wedges and wad fit the bore exactly, for the grooves are so cut, as will be seen by the dotted lines, that the wedges fit the dotted lines correctly. But whenever the charge is ignited, A is driven up as seen in the engraving—and the wedges expand, acting in an inverted manner from the way in which the common wedge is used, and the blast by this means rives and splits the rock in a lateral direction, in a most effectual manner. The higher A is driven upwards the greater is the expanding power exerted on the wedges, for the space between the lever ends of the wedges decreases as the wedge ends expand. Measures have been taken to secure a patent.

New Steam Frigate.

A new steam frigate of 50 guns was lately launched at Glasgow, Scotland. Her engines are different from any ever constructed there before, at least as applied to steamboats—but are not new here. They are of the horizontal kind of 580 horse power and drive a screw of 16 feet 6 inches in diameter and 18 feet pitch. The cylinders are 84 inches diameter with a four foot stroke and calculated to make 30 revolutions per minute. The engines were made by R. Napier, Esq. and are said to be beautiful in workmanship, but on a trial of her speed she only made about eight and a half miles per hour, so it appears she is a miserable sailer, although her hull is allowed to be the finest in the British navy.



LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending Sept 5, 1848.

To Joseph J. Barronowski, Empire of Russia, for improvement in calculating machines. Patented in the U. S. Sept. 5, 1848. In France Nov. 25, 1847.

To Joseph Fillemier, of Philadelphia, Pa., for improvement in cutting Veneers into figures. Patented Sept. 5, 1848.

To Warren Jenks, of Schenectady, N. Y. for improvement in method of setting Steel Traps. Patented Sept. 5, 1848.

To Benjamin H. Latrobe, of Baltimore, Md., for Compound Rail for Railroads. Patented Sept. 5, 1848.

To John Ormiston, of Waterford, Ohio, for improvement in Ploughs. Patented Sept. 5, 1848.

To Alonzo D. Perry, of New York City, for a Portable Lock. Patented Sept. 5, 1848.

To Edward J. Stearns, of Ellicott's Mills, Md., for improved Self-acting Rail and Switch. Patented Sept. 5, 1848.

To Jonathan W. Whitney, of Buffalo, N. Y. for improved Axle Tree. Patented Sept. 5, 1848.

To E. B. Bigelow, of Boston, Mass., for improvement in apparatus for stretching and drying cloth. Patented Sept. 5, 1848.

To Robert Criswell, Jr., of Chambersburg, Pa., for improvement in the Cultivator Point. Patented Sept. 5, 1848.

To George Sweetland, of New Haven, Conn., for improvement in Pulp Machines. Patented Sept. 5, 1848.

To John M. Pratt, of Dudley, Mass., for improvement in the mode of incorporating Flocks with Flannel, &c. Patented Sept. 5, 1848.

INVENTOR'S CLAIMS.

Valves of Water Rams.

H. P. M. Birkinbine, Philadelphia, Pa., for improvement in valves of water rams. Patented Aug. 15, 1848. What he claims therein as new, is, first, the construction of the valve in the manner described, so as to enclose a water cushion between the moving and stationary parts, and also, the cup or air chamber within the valve to relieve it from the shock it is otherwise subject to. Secondly, he claims the safety valve in a diagram, or in the piston, by which the safety and perfect working of the parts are insured.

Cultivators.

Nathan Baker, Flowerfield, Mich., for improvement in cultivators. Patented Aug. 15, 1848. What he claims as new is the manner of arranging the wheels diagonally to the carriage or main frame.

Bee Hives.

Oren Stoddard, Busti, N. Y., for improvement in bee hives. Patented Aug. 15, 1848. What he claims as his improvement is the manner of preventing robbery by means of the trap.

Screw Wrenches.

Solyman Merrick, Springfield, Mass., for improvement in Screw Wrenches. Patented Aug. 15, 1848. What he claims is the manner of making and arranging the contiguous binding faces of the jaws, consisting, first, in making them not parallel to each other, but so as to form an angle when the jaws are brought in close conjunction; second, in roughening one of the faces and making the other smooth.

Remember this.

The best Patent Agency is at the Scientific American office. All who have occasion to take out Patents will please bear this in mind, as they will thereby save themselves much time and money.



NEW YORK, SEPTEMBER 16, 1848.

The end of the Volume.

Our subscribers must now arrange their numbers and get them bound. Those who cannot get them bound conveniently, should fold all their numbers nicely together and stitch them with a stout linen thread, covering all with a strong sheet of pasteboard. The Scientific American is now the Repository of American Art and it would have been of great benefit to our Country had such a paper been in existence twenty years ago. We do not speak thus in reference to any merit of the paper—it speaks for itself—but we refer distinctly to it as a medium to disseminate a knowledge of American invention and spread abroad a peculiar kind of information. Many a subscriber has saved a great deal of time and money by finding something in our columns, which he had sought for in vain elsewhere. It has often happened too, that many a man has found out to his sorrow that some invention which he had wished to patent had previously been described in our columns. He might have saved both time and money had he been a subscriber. As a cheap paper of the kind we would inform our readers that there is nothing like it in the world, five and six dollars per annum is the price of all the monthly magazines devoted to Science or Art and here we present more matter in one year for two dollars than any Scientific periodical does for three times that sum. Those who wish to estimate the value of the Scientific American have but to look over their back numbers. In them they will find much with which they would not part with for ten times what they have paid.

American Steamers.

Experience is the best teacher in all things, and we are learning by experience to construct steamers for ocean navigation. Our first transatlantic steamer, the Washington, is inferior in point of speed. But she will pay for herself; Yankee energy will do this. The United States is a superior sailer to the Washington, and although a fine vessel, the Franklin will, we think, from the construction of her engines, surpass her and all others. Last week there was launched the Georgia at this port, for the New Orleans line, and from her dimensions, and the character of her engines, she will no doubt be a first class vessel, unsurpassed by any other whatever. She is of tremendous proportions, being 251 feet long, depth of hold 25 feet; having 40 feet beam, and about 2700 tons burden, 900 tons more than the America. The engines of the vessel are side lever marine, with cylinders 85 inches in diameter, and 8 feet stroke, having 2 engines and 4 boilers. The arrangement for the boilers is somewhat novel, two fore and two abaft the engines. The solidity of the timber and the strength of fastening, are greater than any vessel ever launched; the thickness through the bilge of the vessel is 32 inches. The floor timbers are 20 inches deep, placed closely together and bolted lengthwise. The outside planks are 6 inches thick, the inside ceiling of the vessel is 6 inches, and the clamp streaks 7 inches. The deck beams are 12 by 15, and 13 by 15 inches, all secured with knees resting on the water ways of the ship.

The engines, which are of the most substantial workmanship, work entirely under deck. We should have preferred to have seen the bore of the cylinders 96 inches in diameter, instead of 86. There appears to be no standard of proportion between the stroke and bore among engineers and yet it appears to us, that there must be a geometrical relationship. Observation might lead to the discovery of definite proportions. America is yet destined to have an excellent steam navy, and in our opinion it would be folly to build any more mere sailing ships or frigates of

war. Steamships are the toast for active and effective service. It was the opinion of Sir Sydney Smith—not the essayist—but the great sailor and general, that the large ships of war in the British navy, would yet be transformed into coal luggers for the steamships.

Kyanized Ships.

A correspondent recently gave in your paper some valuable facts in regard to a plank road in Tennessee. He said the sleepers were kyanized, and, besides being thereby rendered proof against moisture, were entirely preserved against worms and insects. It occurred to me at once that if the timbers and planks of ships were kyanized, they would be rendered stronger, more durable and more economical. The great expence now incurred for repairs would be saved, the interior wood work would not become worm eaten, and copper sheathing would be unnecessary, since water would not affect the planking, neither would barnacles, sea worms and insects fasten more readily upon the uncovered bottom than they now do upon the sheathing, if as much, since the indurating liquid would be poisonous to them.

The suggestion may not be new though I have never seen it before. W. F. L.

There is a process patented in England by a chemist named Payne, which has been highly praised both as a wood preservative from decay, and from being destroyed by fire. The process, is to exhaust the air from the pores of the wood and introduce a liquid that will form an insoluble salt in the wood. For ordinary purposes, in the first instance, a solution of sulphate of iron, (copperas) and then one of muriate of lime are injected, these, by double decomposition, form sulphate of lime and muriate of iron. When the timber is required to be uninflammable, alum as well as iron, is injected. When timber is required to be proof against worms sulphuret of barytes and sulphate of iron, or of alumina, both or either of the latter, are used.

The wood to be saturated, is first placed into a cylinder resembling one of our high pressure boilers; from this the air is exhausted commonly, by introducing steam, and then effecting its condensation, when a vacuum is produced, or where steam cannot be conveniently applied, the same result can be obtained, but at a greater expense of labour, by means of the air pump. When the interstices of the wood are exhausted of the air which they contain, the solution of copperas is first introduced, and in order more effectually to penetrate the body of the wood, throughout, powerful pressure is applied by the agency of the force pump. Another vacuum is then obtained in the cylinder, when the second solution is forced into the timber in a similar manner, and the two combining, at once produce an insoluble substance, with which the pores of the wood is thoroughly charged throughout.

Many parts of vessels have been prepared with wood preservatives and the only portion of the Royal George and the piles of the old London Bridge, found to be sound, were those impregnated with oxide of iron and a calcareous matter imbibed from the sea water whilst the remaining portions were either destroyed or rotted.

The utility of Payne's process has been fully tested. The British government has extensively adopted it, in the construction of the new Houses of Parliament and the British Museum.

Many of our vessels use salt as a preservative, running it between the planking through proper orifices. The fine packet ship Patrick Henry is treated with some bushels of it, at the end of every voyage.

Payne's process has been so highly extolled by some of our London exchanges, that we are forced to be prudent in our opinion of its merits and properties but consider it with moderate views as being very good.

Are you trying?

With our last issue we sent to every subscriber a prospectus for our new volume, with the request that all would try to obtain a few additional names. We hope each one will endeavor to send us three subscribers, and thus receive the gift which we offered.

The Crank.

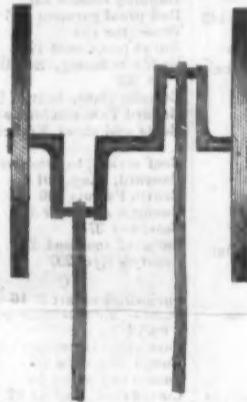
Perhaps there is no piece of mechanism, so famous in controversial story, as the crank, especially as it regards its qualities for converting reciprocating into circular motion. Eminent engineers have combatted from dawn till eve upon this point, then sheathed their swords for lack of argument. We have brought up the subject at this time just to indulge in the expression of a few ideas on the subject more of a practical than a theoretical nature.

FIG. 1.



FIG 1 represents the crank driven by the reciprocating motion of the connecting rod which communicates a circular motion to the flywheel, and some heroes have beheld one half of the power lost by the dead points, (a perpendicular line with the centre of gravity) All the controversies that we have read upon this mooted point, were wonderfully mystic in signification, and we have beheld with grief many a poor fellow get into a fog of his own calculations, out of which he could not march except backwards with his eyes shut.

FIG. 2.



This is a cut of two cranks whereby a reciprocation motion may be communicated to work a pair of pumps by the circular motion of the shaft of a water wheel. We have seen a neat little engine (upright) dispense with the walking beam by having a broad wheel on each side of the crank, the piston being connected with the crank, the broad wheels fixed on the framing answered well for band wheels to communicate the power of the engine to other machinery by straps.

As it respects the true value of the crank, the question without going into any figures on the subject, just lies in this little point "what is the better plan?" Can any person, has any person been able to show a simpler and better plan as a substitute for the crank?—Not one. There then is an end to the argument, and after all what loss is there but in the friction, and the motion of the crank is just as natural as any other motion, and as a piece of mechanism it has no superior in its own place. Men could not run any faster if they had legs made of wheels; and no greater tribute was ever paid to the beauty and utility of the crank combined with the steam engine, than that of James Watt when he laid down his sun and planet wheels, and adapted the simple crank.

The Mississippi Valley.

Upon the Mississippi river and the tributary streams are now about 500 steamboats, with capacity to carry, at one trip, near two hundred thousand tons. Assuming that these boats will make an average of thirty-six trips in the year, they would transport seven millions two hundred thousand tons! Vast as is now the trade upon these rivers, it is small to what it will be. Of the land drained by this great river, not more than one-tenth of it is in cultivation when the nine-tenths now not cultivated shall be brought into such cultivation as now exists on the other

tenth, the demand for tonnage for its transit, compared with the present, will be as nine to one; so that five thousand steamboats will then be required upon the waters that now employ five hundred. It is also fair to presume that the constantly improving husbandry of the West will, at no distant period, double the production of lands, a large majority of which are under the most careless cultivation. In this latter case ten thousand steamboats would be required on the Mississippi river and its tributary streams.

Supposing that five thousand of these boats should run below the mouth of the Ohio and above New Orleans, and that each boat should pass a given point, say Natchez, once a week, 714 boats would pass that point each day, 30 boats each hour, or a single boat every two minutes; every four minutes one boat would ascend and the other would descend the river; so that a boat descending the river at the rate of ten miles to the hour, would meet thirty ascending boats; and one descending at the rate of twenty miles to the hour, would meet sixty ascending boats. Time, which has more than verified the prediction that the trip from Orleans to Louisville would be made in ten days, will also more than realize these calculations. Calculations made upon the future powers and resources of this country have always been too small.

Aboriginal Industry.

By the census of Indian tribes, which is now in the process of being taken, says the Union, it is shown that the seven small bands of Ottawas about Michilimackinac, numbering about 700 souls, who rely wholly on agriculture for a subsistence, have raised during the last season 25,000 bushels of corn and 40,000 bushels of potatoes. They also made, the past spring 325,000 pounds, or over 147 tons, of maple sugar; which is worth at the Mackinaw market, seven cents per pound, making \$52,750 on sugar alone. Corn is worth at the same place, 50 cents and potatoes 37 1/2 cents per bushel. This single example shows what the Indian tribes could do for themselves were they all to make a bold appeal to agriculture for a living, and abandon the chase.

Massachusetts Carpets.

There have been manufactured at the large carpet factories in Roxbury, belonging to Henry Pettes & Co., within the year commencing August 1, 1847, and ending August 1, 1848, upwards of two hundred and fifty thousand yards of carpeting.

This large quantity has all been sold at their warehouse in Boston.

They manufacture all descriptions of in-grain and three ply carpets, tapestry Brussels and velvet pile carpets and rugs.

Unprecedented Demand for Old Papers.

At the commencement of the present volume of the Scientific American we had nearly one thousand complete sets of the preceding volume on hand. Since that time we have had 500 copies of those sets bound, and the balance have been ordered by mail and sent in sheets. We are now obliged to inform our patrons that we are unable any longer to furnish complete sets in sheets, and that we have but fifty more copies left, which are bound. The price of the remaining fifty copies which are left will be hereafter \$3 per copy (neatly bound,) or we can furnish a few more copies in sheets, minus Nos. 1, 10, 16, 17 and 46, at \$2 per set. All the numbers of the third volume can be had yet, at the subscription price.

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INDEX.

- A**
 Artesian Wells 3, 10, 85
 An important Discovery 5
 Astronomy 35, 93, 198
 Antique Chair 138
 American China 145
 Alcoholic Liquors, coloring 152
 Art, wonders of 155
 Aquatinta Engraving, improvement in 176
 Artificial Stones 178
 Artificial arm 188
 Amateur artists, papers for 916
 Architecture, iron in 242
 Ancient Mechanical arts 258
 Alabaster, bringing out sculptor on 288
 Architecture, rural 307
 Artificial marble 356
 Astronomy, curiosities of 367
 Agricultural chemistry 59
 Animal substances, preserving 80
 Aeronautics 83
 Arrow root 106
 Asphaltic felt roofing 148
 Acid, new 178, 301
 Ammonia 211
 Anaesthetic agents, the 214
 Atmosphere, the 226, 259
 Arsenic, antidote to 250
 Antimonial paint 290
 Artificial cold 304, 312, 320
 Anthracite ashes 305
 Ancient metals 315
 Acetate of Morphia 332
 Attraction and repulsion 3
 Amants' escapement—Eng. 32
 Atmospheric pile driving 32
 Alarm at sea 35
 Annunciator, the 36
 Art, nature, and machinery 37
 Atmospheric railway 41, 325, 397
 Apple paring machine 44
 Atmospheric pressure 76
 Atmospheric engines 106
 Air bed 116
 Air engine for railroads and common roads 116
 Adams' machine for moulding brick—Eng. 137
 Arch bridge 161
 Action of steam, expansive 171
 Anchor, auxiliary 172
 Augur, ship carpenter's—Eng. 172
 Anthracite furnaces 210
 Alarm lock, Eng. 241
 Agricultural implements 249
 America, new steamship 258
 American carriages 261
 Artificial hand 263
 Automaton extraordinary 272
 Alternate traverse motion, Eng. 272
 Albany, propeller 274
 Atmospheric railway, Avery's improved, Engs. 2 figs. 281, 284
 Arts, manufactures and machinery 236, 294, 302, 310, 312, 326, 334, 342, 350, 358, 366, 374, 382, 390, 396, 406
 Annunciator, self acting 300
 Alarm whistle and pressure gauge for steam boilers, self acting, Eng. 300
 Automaton, garden 304
 Atmospheric churn 324, 356, 364
 Alternate rectilinear motion, Eng. 392
 Air seat saddle 396
 American railroad iron 29
 Albany and Boston R. R. 203
 Atlantic and Pacific R. d. 225
 Atmospheric R. d., Clarke and Varley's, 251
 Air line R. d. 265
 Androscoggin and Kennebec R. d. 281
 Albany and Buffalo R. d. 239
 Auburn and Rochester R. d. 345
 Atlantic and St. Lawrence R. d. 345
 Auburn and Syracuse R. d. 393
 American grain 3
 Arsenal, the new, 3
 Animals, habits of 6
 Antiquarian discoveries 10
 Anthracite coal for locomotives 13
 American Archaeology 13
 Anthracite, first introduction of 14
 Ancient sculpture 19
 American antiquities 25
 Animated nature 33
 American champagne 42
 Athens, the ruins of 43
 Aerial navigation 46, 243
 Arctic expedition, 1-51, 26, 242
 American Institute 53, 266, 306
 Aromatic beer 56
 Apples, 56, 243
 Alston the painter 62
 Apple Orchards 64
 American Art Union 67
 Amputation 77
 Agriculture 89
 Ante, to drive away 128
 Apple tree post 136
 Ancient mines 139
 Architectural taste and design 141
 Air line, the 153
 American art 154
 Avail, a heavy 154
- Animal mechanism 163
 Agriculturist, interesting to 165
 Artisans in Paris 195
 America, resources of 197
 Audubon 204
 Active pursuits 230
 Ankles and wrists 240
 Astronomy, new lights on 254
 Attraction, effects of 256
 Australian wheat 259
 Agriculture, appropriations for 277
 Artesian Well at Venice, 281
 Asparagus, bottling 288
 Ancient work on mechanics 309
 Atmospheric pressure 338
 Asparagus 377
 Angora Wool 382
 Animacutes, origin of 395
 American Arts and British Generosity 411
 Aboriginal Industry 413
 American Steamers 413
 Angry Words 73
 A Lover's Logie 193
 Adam's Last Efforts 201
 A Mother's Blessing 249
 A Gem 299
 A Wish 345
 A Play upon Words 398
 A Christian Life 409
- B
 Burning glass, the Indian and the 11
 Bank bills, preventing the alteration of 68, 76
 Butter, preserving 74
 Brick, new kind of 76
 Bridge, splendid 86
 Blankets, new mode of scouring 99
 Brahmatical wonders 155
 Bank note paper, threaded 162
 Bell casting 238
 Browning gun barrels 240
 Burning glass, heat of 232
 Ballard Vale machine shop 253
 Boots and shoes, French po ish for 256
 Beef stakes, to preserve, 269
 Banvard, Eng. 291
 British Patents 306
 Bonnets, straw for 386
 Boot, the 371
 Burial of the Dead 121
 Beauty's Eyes 297
- C
 Curiosities of art 8, 16
 Cameos, imperishable portraits on 13
 Cambridge telescope, the 18
 Cough, to cure a 26
 Cameo engraving 56
 Cotton cord, imp. in 68
 Clothes, to clean men's 88
 Cloths, new kind of 92
 Corals 129
 Coffee making 144
 Cycloid, the 144
 Chimneys 148
 Clairvoyant miners 149
 Colored silks, to clean 168
 Cast iron chimney tops 180
 Carriage 205
 Clock, wonderful national 206
 China mending 216
 Candles, to make splendid 243
 Concrete walls 246
 Case hardening 256
 Cane bottom chairs, couches, &c., to restore the elasticity of 256
 Cotton raising and cotton spinning 261
 Calf and sheep skin, to gild on 312
 Currants, preserving 315
 Cherries, preserving 315
 Cameos 828
 Charcoal, improved method of making 360
 Blow pipes, designs for imp'd Engs. 2 figs. 188
 Bridge roofs, 193
 Bevel wheel coupling 200
 Bridges 204, 208, 211
 Bed top, ventilating 220
 Balloon ship 234
 Brace pad, Eng. 2 figs. 252
 Bullet making 252
 Bow cutters 260
 Bain's telegraph, Eng. 3 figs. 261, 273, 396
 Barrel dressing machine 276
 Button mould machine 284
 Boot crimp 300
 Brick manufacture 318
 Belting for machinery 326
 Burring, carding, and combing wool machines 331
 Boot planes 332
 Boiler feeder, simple 332
 Balance valves for steam engines 324
 Benz unbranning machine 341
 Brick presses, imp. in 348
 Braiding machines, Fitzgeralds 348
 Bricks, 364
 Bramah's planing machine 371, 379, 387, 395
 Boot heel, new 372
 Book back machine 372
 Bellows, imp'd 372
 Buck eye corn sheller, Engraving, 381
 Balance valve, Hill's Engs. 4 figs. 385, 388
 Bullets 388
 Balance water cock 396
 Balloon warfare 397
 Building, facts in 400
 Book back machine, Engs. 2 figs. 404
 Blasting, improvements in Eng. 412
 Buffalo and Mississippi R. d. 1, 81
 Broad guage in Eng., new 25
 Broad guage 25
 Boston and Worcester R. d., freight depot of the 118
 Broad and narrow guages 257
 Boston R. d. 273
 Boston and Worcester R. d. 281
 Boston and Stonington R. d. 329
 Boston and Montreal R. d. 377
 Button factory 35
 Breath in man and woman, quantity of 39
 Boots and shoes, old 39
 Bedroom, useful hints about 30
 Brick back logs 39
 Births and deaths, influence of the periods of the day on 33
 Burning wells of Kenawha, the 46
 Butter 48, 102, 290, 360, 403
 Boston water works 49
 Bibles, 51, 114
 Brooklyn Institute 63
 Books 75, 83
 Buttons, patent 82
 Belgian iron foundry, great 120
 Burns, cold water for 122
 Bread making 125
 Brooklyn flour mills 125
 Building vessels 131
 Ball proof garment 136
 Brain, the 155
 Bullet proof coat 196
 Bodily suffering, Schiller's use of 227
 Burning glass, heat of 232
 Ballard Vale machine shop 253
 Boots and shoes, French po ish for 256
 Beef stakes, to preserve, 269
 Banvard, Eng. 291
 British Patents 306
 Blue, to dye 107
 Bengal lights 128
 Blue, new 136
 Blue color for stamping patterns on cloth 144
 Beat root sugar 144
 Black varnishes 160
 Books and manuscripts, preservation of 176
 Bezoin acid 240
 Building composition 274
 Bones, to white 312
 Bread adulterated with alum, to discover 384
 Butter, preservation of 409
 Beehives 412
 Boston mechanic's fair 2
 Boat crimping machine 20, 140
 Brewster's reversing plough—Eng. 26, 60
 Bull's chimney top, Eng. 28
 Brick machine, 36, 156, 260
 Boot tree and last 36
 Blind fastener 58, 180
 Box turning machine 60
 Boot Patterns 60
 Bevel gearing, Eng. 64
 Bullet moulding 84
 Baskets, imp. in 84
 Burglar and fire alarm, Eng. 100
 Biscuit machinery 110
 Bedsteads imp. in, Eng. 3 figs. 116
 Blowpipe 140
 Brake and safety wheels, self acting 164
 Barnum's power loom improvements, Engs. 3 figs. 177
 Burring machine 180
 Blow pipes, designs for imp'd Engs. 2 figs. 188
 Bridge roofs, 193
 Bevel wheel coupling 200
 Bridges 204, 208, 211
 Bed top, ventilating 220
 Balloon ship 234
 Brace pad, Eng. 2 figs. 252
 Bullet making 252
 Bow cutters 260
 Bain's telegraph, Eng. 3 figs. 261, 273, 396
 Barrel dressing machine 276
 Button mould machine 284
 Boot crimp 300
 Brick manufacture 318
 Belting for machinery 326
 Burring, carding, and combing wool machines 331
 Boot planes 332
 Boiler feeder, simple 332
 Balance valves for steam engines 324
 Benz unbranning machine 341
 Brick presses, imp. in 348
 Braiding machines, Fitzgeralds 348
 Bricks, 364
 Bramah's planing machine 371, 379, 387, 395
 Boot heel, new 372
 Book back machine 372
 Bellows, imp'd 372
 Buck eye corn sheller, Engraving, 381
 Cleaning engravings, Receipt for 280
 Caoutchouc from drying oils 230
 Cast steel, composition for welding 288
 Copal Varnishes 288
 Chloroform and ether 290
 Corn, composition of 290, 314
 Cement 304
 Claret color 312
 Chemistry applied to the arts 315
 Copper boilers, cement for 336
 Copper, arsenite of 336
 Carrige wheels, greasing 338
 Carbon, some properties of 344
 Columbite 331
 Copper in pickles and green tea, to detect 384
 Coking diamonds 387
 Carrot, the 397
 Carbonic acid 398
 Color 402
 Compound motion 8
 Chamberlain's drawing board—Engs. 2 figs. 9
 Circular and reciprocating motion, Eng. 16
 Cheese press 20, 308, 321
 Corn plough,Ralston's 20
 Cotton and wool twist 20
 Clock, ingenious 20
 Carriage guide 24
 Capstan pump 28, 29
 Churning, philosophy of 33
 Colt's revolving pistols 34
 Curious clock 40
 Crampton narrow gauge engine 41
 Curious pump 44
 Candle machine 44
 Cannon 44, 132, 172
 Chamberlin's draughting board 44
 Chandler's mortising and tenoning machine, Eng. 49
 Cylinders 52
 Cooking apparatus 60
 Circular motion, changing direction and speed of, Eng. 72
 Carriage hub 76, 316
 Cotton spinners, imp. in 76
 Circular and vibratory motion, 2 Engs. 90, 400
 China manufacturer, American 32
 Counting machine, printers 92
 Coffee apparatus, Eng. 2 figs. 92
 Clasp catches 108
 Chemical formula 115
 Candlewicks, imp. 124
 Cockroaches 128, 176
 Candlewick 132
 Cork 166
 Carriage bodies 172
 Congressmen and the Patent Laws 173
 Copper mines of Mo. 173
 Concrete shoal blown up 176
 Cleanliness 177
 Compressibility 179
 Cotton 182, 241
 Chords of a circle, table of 190
 Cotton factory, first American 190
 Coal trade 194, 202
 Cotton Planting 200
 Consumption, 202, 235
 Cough, alleviation from a 202
 Cotton yarn covered by wool 204
 Cisterns, Parker's house 217
 Cheese 224
 Chloroform, substitute for 232
 Combinations, patents for 237
 Cordage 238
 City atmosphere on stone, effect of 243
 Caterpillars 243
 Congress and inventions 253
 Chestnuts 258, 322
 Candles 264
 Clairvoyance 266
 Currents of the ocean 266
 Cypress Wine 412
 Crank, the 413
 Carpets, Massachusetts 413
 Character of a happy Life 137
 Comets 305
 Chide Mildly the Erring 401
- D
 Clover thrasher and seed cleaner 196
 Car for curves, new, 196
 Cut off valves 196
 Circus spectacles 198
 Cloth measure 204, 228
 Carrige and wagon axle, improved, Eng. 2 figs. 204
 Coffee mill, machine for the manufacture of 220
 Carriage springs, imps. in 220
 Cotton cleaner 236
 Cannon balls on iron steamers, effects of 249
 Cast iron plough, the 250
 Cotton scraper 252
 Contracted vein, the, Eng. 252
 Centre of gravity 259
 Couplings, Eng. 264
 Card press 274
 Carter's cheese press, Eng. 321
 Candles 380
 Copying paper 384
 Chemistry, wonders of 8
 Copper and sulphur ore 13
 Chlorine gas 16
 Coal 21, 53, 65, 103, 122, 141, 181, 200, 201, 234, 293
 Copper ore in the South 37
 Cholera, antidote for 70
 Chrome black on wool 104
 Coloring substance, new 108
 Chemical discovery, progress of 109
 Cobalt and nickel mine 122
 Chloroform 128, 146, 155, 162, 198, 224
 Concrete for floors 136
 Chrystal and water 138
 Copper, 149, 197
 Chemistry printing 150
 Cough syrup 152
 Cocoa, to prepare 168
 Color, fast 174
 Coal, formation of 182
 Combustion, spontaneous 205
 Chemical analysis 222
 Cast iron, silvering 229
 Carburet of sulphur 248
 Collodion, 248
 Chrysanthemum 254
 Coal, formation of 182
 Combustion, spontaneous 205
 Chemical analysis 222
 Cast iron, silvering 229
 Carburet of sulphur 248
 Collodion, 248
 Chrysanthemum 254
 Cog wheels of unlimited power and velocity, Eng. 364
 Carbon, vegetable and animal 375
 Corn cracking machine 396
 Clock fan 396
 Corn sheller 404
 Coffee Pot, new 412
 Cultivator 412
 Ceylon railway 17
 Cairo and Central R. d. 65
 Central Ohio R. d. 89
 Cheltenham, opening the railway to 93
 Chicago and Galena R. d. 161, 353
 Champlain and Ct. River R. d. 177
 Cohoes and Albany R. d. 177
 Cocheo R. d. 185
 Champlain R. d. 225
 Chicago R. d. 241
 Coupling, R. d. 276
 Clearing railway tracks, revolving apparatus for 284
 Cheshire R. d. 305
 Columbus and Cleveland R. d. 335
 Cadmus 3
 Creeping plant 8
 Chinese junk, 10
 Cunard steamers 10, 21
 Cotton worm, war on the 30
 Cachou Lozenges 32
 Celestial phenomenon 35
 Copper ore, extraordinary piece of 37
 Calculating Interest 40
 Cold bedrooms 40
 Cotton in Turkey 42
 Cotton in India 42, 310
 Coal business at Picton 43
 Co-operative association 45
 Caoutchouc trade, the 50
 Carpet factory 51, 53
 China, arts and sciences of 56
 Cabo 60
 Cotton seed 61
 Copyright movement 61
 Cotton crop 66
 Circulation of the blood 70
 Cholera 75, 213, 217, 354
 Corn in bulk to estimate 76
 Cancer, cure for 78, 408
 Cabbages 80
 Corn crop of the U. S. 82
 Curry combs 84
 Coffee 86, 130
 Carrige bow spring 100
 Cotton manufactory 101
 Calenius 101
 Clasp catches 108
 Chemical formula 115
 Candlewicks, imp. 124
 Cockroaches 128, 176
 Candlewick 132
 Cork 166
 Carriage bodies 172
 Congressmen and the Patent Laws 173
 Copper mines of Mo. 173
 Concrete shoal blown up 176
 Cleanliness 177
 Compressibility 179
 Cotton 182, 241
 Chords of a circle, table of 190
 Cotton factory, first American 190
 Coal trade 194, 202
 Cotton Planting 200
 Consumption, 202, 235
 Cough, alleviation from a 202
 Cotton yarn covered by wool 204
 Cisterns, Parker's house 217
 Cheese 224
 Chloroform, substitute for 232
 Combinations, patents for 237
 Cordage 238
 City atmosphere on stone, effect of 243
 Caterpillars 243
 Congress and inventions 253
 Chestnuts 258, 322
 Candles 264
 Clairvoyance 266
 Currents of the ocean 266
 Cypress Wine 412
 Crank, the 413
 Carpets, Massachusetts 413
 Character of a happy Life 137
 Comets 305
 Chide Mildly the Erring 401
- D
 Daugerootype 62
 Daugerootype art, new use of the 64
 Diamonds converted into charcoal 131
 Daugerootype of the sun 138
 Door knobs 148
 Doctors, curious fact for 154
 Dentistry, imp. in 162
 Drawings, to varnish 168
 Damask weaving 179, 187
 Divining rod, a human 179
 Daugerootype discovery 210
 Diamond dust 248
 Distance of the sun from the earth 260
 Daugerootyping, imp. in 268
 Darning needles, skill in 310
 Dandelion, extract of 352
 Dried fruits, preserving 369
 Disinfecting gas 10
 Disinfecting fluid 97, 213, 277
 Deafness, cure for 74
 Dyeing, imp. in 196
 Dyeing 289
 Diamond, the 299
 Drab color 320
 Drab color 320
 Dye silk of a gold color, to 376
 Chorus 380
- Donny's axle for railroad cars Eng. 12
 Dentometer 52
 Deshon's shower bath, Eng. 2 figs. 110
 Dredging boat 132
 Drilling roads, imp'd. machine for, Eng. 153
 Drawing curved lines, instrument for, Eng. 192
 Door fastener, traveller's 203
 Drums, speed of 243
 Dianometer, the, Eng. 2 figs. 248
 Dyack iron furnaces 299
 Deadly instrument, a 306
 Double traverse motion, Eng. 328
 Dredging apparatus, novel 332
 Draught and friction of carriages, imp. in diminishing the —Eng. 4 figs. 353, 356
 Diving bell 356, 389
 Deviation of bodies falling from a perpendicular 357
 Drill, the, Eng. 376
 Dressing movement, Eng. 392
 Door springs, Peck's imp. 404
 DeWitt's railway 74
 Damages against Railroads 90
 Dietetics 16
 Door plates, casting 53
 Daugerootype science 101
 Digestion, facts about 131
 Days with nights 139
 Dancing 147
 Drying corn, imp'd mode of 154
 Draught in ploughing 154
 Divisibility 163
 Deafness 202
 Degrees 202
 Dysentery 313
 Diamonds 336
 Disinfectant, a good 412
 E
 Electropathic operation 8
 Expanding cannon ball 20
 Electrotype and electro galvanizing, Eng. 8 figs. 21, 29, 37, 45, 53, 61, 69, 77, 85, 93, 101, 109, 117
 Engraved plates 36
 Experiment with a plant 30
 Electricity, light from 132
 Enamel fluxes 160
 Experiment with a tulip 160
 Enamel colors and fluxes 168
 Enamels 176, 184
 Edge tools, table of the composition of metallic baths to temper 184
 Electric fluid, gravitation of the 208
 Electric light, Stalts's 219
 Engravings on white paper, to transfer 248
 Enamelling iron vessels 256
 Etching 238
 Electricity, velocity of 352
 Electricity and color 355
 Electrified cotton 356
 Enamels for iron 388
 Electric sparks 400
 Ether 29, 155
 Electrical precipitation 124
 Electricity universal 276
 Electric light 355
 Extracting metals from their ore by electricity 357
 Evaporation and condensation 363
 Enamels for iron 388
 Engraving, new method of 404
 Electric railway 4
 Envelope machine 4
 Effluvia trap, Walker's 11
 Expansive steam angular beams Eng. 13
 Engines, horse power of 22
 Electric engine 60
 Evaporation grate 60
 Eureka cotton gin 100
 Electro magnetic engine 116
 Escapement, Eng. 136
 Exercising children, machine for 140
 Egg hatching machine 147
 Eliptographic compass, Eng. 148
 Emery and sand paper, machine for making 148
 Eccentric motion, Eng. 160
 Eccentric movement, Eng. 163
 Electric Gun 172
 Engines 210
 Electric improvements, Eng. 4 figs. 225
 Economy of power in cotton factories, Eng. 229, 237, 245, 254, 261, 269
 Eccentric for an uniform traverse, Eng. 240
 Elastic wheel, Eng. 2 figs. 252
 Engine trumpet 268
 Ediograph, the Eng. 277
 Engravings, copying 356
 Electrical machines, substitute for glass for 344
 English railways 1, 49, 113
 English and Scotch R. d.s. 57
 European R. d.s. 75
 English and American railways 85
 Expenditures, R. d. 121
 Emigrants 2, 30, 37, 221, 242
 Enterprise 10, 29, 53
 Exports of the U. S. 10
 Effects of pavements on health 11

- English patents, new 12
 Etiquette 26
 English quarter 27
 Electricity 29
 Exceeding coppery 29
 Ether in mania 33
 Electricity universal 74
 Electric telegraph 92, 121, 214,
 222, 238
 Energy and mind 102
 Ether, substitute for 116
 Education 123, 149
 Early printers 131
 Eye, the formation of the 152
 Electric light 172
 Electric Telegraph and patent
 laws 188
 Earth, figure of the 203
 Ether and chloroform 248
 Eloquence, power of 249
 Engines, new 292
 English patent law 318
 Electricity and hydrotherapy 373
 English patent, an 373
 Earthquakes & terrestrial chas-
 ses 398
- F
- Fossil Lion 6
 Fire screen, to make a 8
 Flannel, to wash 8
 Flower, a curious 25
 Flying artillery 51
 Fine arts in Australia 51
 Fountain pens 116
 Floating beds, 136
 Flower painting 142
 Fires, steam for extinguishing,
 228
 French varnish 240
 Fiery shower 272
 Fine arts, influence of the 317
 French Green 64
 Freezing mixtures without ice
 or snow 107
 Fermentation 147
 Food, preservation of 187
 Fulminating powder 190
 Fruit stains, to remove 243
 Flame 323
 Fluorine 336
 Fire proof clay for crucibles
 384
 Fan water wheel, Sherrod's,
 Eng. 4 figs. 17, 36
 Fire Grate 20
 Fire bricks, machine for mak-
 ing 20
 Fluids discharging through ori-
 fices, the laws of 40
 File machine 44, 122, 388
 Flax breaking, scutching and
 hawking machine 92
 Fish hooks, Eng. 100, 108
 Foul air burner 116
 Foot stove, improved 92, 116
 Flouring mill, portable 116
 Fire arms, improved 123
 Friction polisher, Eng. 136
 Fiddles, improvement in 180
 Flax spinning, improvements
 in 180
 Flying and wharve coupling,
 Jones's 196
 Fabric, a new 196
 Fancy printing, roller for 204
 Furnace grate, Eng. 204
 Faucet, the Eng. 216
 Fire engine 226
 Faucets, improvements in, Eng.
 228, 316
 Flour chest and flour packer
 combined, 274
 Fire escape ladder 292, 316
 Flower pots, improvements in
 Eng. 292
 Fitzgerald, cannon 324
 Filtering water, improvements
 in 348
 Fire annihilator 364
 Fan blasts, improvement in 388
 Fish hooks, patent 496
 Friction wheels, Eng. 2 figs.
 408
 Friction Roller, Eng. 412
 French R'd. 1, 17, 321
 Foreign railways, 17, 349
 Frankfort and Lexington R'd.
 241
 Funny rail road Accident 409
 Fortifications of Paris, the 3
 Fair of the American Institute
 18, 26, 34, 42
 Food, hints about 25
 Franklin Institute 26
 Faneuil Hall 45
 Fire damp and death, explosion
 of 55
 Fire and smoke 65
 Flour mill 70
 Friction matches 73
 Flour, adulteration of 82
 Foreign patent laws 118, 126
 Furnace chilled, a 124
 File manufactory 133
 Force and suction pump 164
 Factories, steam power for 165
 Foreign scientific miscellany
 203
 Fire annihilator 204
 Furniture paste 242
 Flax, manufacture of 255
 Filters, cleaning 276
 Fattening horses 370
 Fence, new kind of 412
- G
- Galvanized spring mattress 4
 Glass 13, 48, 92, 154, 264
 Gold, making 24
 Golden Dagerreotype 44
 Gold Pens, Eng. 3 figs. 58, 67,
 236, 244
 Glass, painting on 64, 72
 Gutta Percha 82, 189, 230
 Galvanic astronomy 91
 Glue for cementing paper, silk,
 and leather 96
 Galvanized types 103
 Glass moulding 294
- Gilding paper, parchment, and
 leather 234
 Gems, ancient 244
 Gums 254
 Gunnery, experiments in 254
 Glass floors 293
 Gun cotton 44, 400
 Greek fire 44
 Gas 52, 82, 92, 96, 104, 112, 162,
 208, 314
 Generating steam 58
 Green color, to dye a 64
 Grease, patent 72
 Galvanic battery 320
 Gutta percha and caoutchouc
 324
 Gem altered by art 328
 Glass, manufacture of 335
 Gas works, saving of fuel in
 338
 Gases 339
 Gas, importance of one 363
 Glaze for earthen ware 392
 Grain feeder 36
 Governor, application of the
 Eng. 2 figs. 40
 Guyon's water wheel, Eng. 41
 Galvanic battery 44
 Gun breeching 92
 Governor, the Eng. 104
 Grinding grain, improvements
 in, Eng. 180
 Gun cotton engine, Eng. 180
 Grain separator, Eng. 2 figs.
 188, 329, 340
 Gun trumpet 194
 Geometry, practical, Eng. 196
 Grinding mills 212
 Grain and seed planter, Pratt's
 improved, Eng. 217
 Guano 218
 Glass moulding, machine for,
 Eng. 3 figs. 233, 236
 Galloway's rotary engine 243
 Gun boring, Eng. 2 figs. 248
 Grain dryer, J. Massey's im-
 proved 249
 Gauge cock, new 260
 Graham's escapement, Eng. 280
 Gimble and fringe machine 300
 Galvanic spectacles 308
 Glass for lamps 326
 Glass water pipes 340
 Grain driers 340
 Grates for stoves 356
 Gas meter, Marsh's, Eng. 361
 Granjean's screw cutter Eng.
 368
 Grain planters 378
 Gutta percha thread Eng. 3 figs.
 379
 Great Western railway 25, 217,
 273
 Greenock railway, 25
 Great Western R'd. and Niaga-
 ra bridge 153
 Gold 11, 91, 109, 170, 184
 Ginseng 18
 Geologists, association of 18
 Gun cotton 22, 133
 Guano, how the Peruvians use
 22
 Gram weight of 27
 Geology system makers 29
 Grain weigher 44
 Grain 60
 Gout, cure for the 138
 Geology 171
 Gas regulators 196
 Grafting 216
 Gas pipes 228
 Geological 230
 Gutta percha 293
 Gutta percha boats 306
 Glass and milk 320
 Girard College 326
 Gingerbread 360
 Gutta percha 376
- H
- Horticultural seat 8
 Horse, to ascertain the age of a
 25
 Heights which cannot be meas-
 ured, to obtain 32
 Hail, formation of 182
 Horse shoe Magnet 256
 Husk Mattresses 260
 Haematinon, discovery of 272
 Hot houses, utility of blue glass
 for 288
 Hydrogen gas 32
 Hydrophobia, cure for 67
 Heat, radiation of 90
 Heat, boiling 99
 Harvesting harrow 12
 Horse power, Eng. 3 figs. 12,
 13, 393
 Hydraulic engine 12, 377
 Holcomb's hemp brake 20
 Hartson's patent lathe, Eng. 33
 Howell's tanning machine 34
 Harvesting machine 36, 370
 Hyde's blind fastener 44
 Horse Rake 59, 156, 244, 356
 Hopper, how to cut a bevel for
 a, Eng. 76
 Harrow, improved 76
 Hoe rake, improved 76
 Hydraulic machine, Eng. 80
 Howe's ore mill, Eng. 81
 Horse collar, inflated 82
 Hoe's printing press 83
 Hub and axle, improved, Eng.
 84
 Hoe neck and tilt hammer, Eng.
 89
 Hemp brake 92, 172, 332
 Harrison's drill, Eng. 121
 Hoeing machines 156
 Horse power hoe 158
 Horizontal cylinder, Eng. 160
 Hinges, machine for making 164
 Hydraulic telegraph 179, 203
 Hydraulic screw, Eng. 184
 Hot air furnaces 196, 202, 372,
 388
 Hydraulic ram 221
- I
- Horse shoe machines 236
 Hemp dressing machine 244
 Hanging machine 250
 Hydrostatic valve, Eng. 284
 Hull of wheat, separating the
 340
 Horizontal and perpendicular
 motion, Eng. 344
 Hardening hides 348
 Harness relief spring 404
 Hartford and New Haven R'd. 9
 Hudson River R'd. 25, 41, 57,
 113, 369
 Houstonian and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the 33, 46,
 54, 62
 Housatonic and Western R'd.
 157
 Hartford and Providence R'd.
 297
 Hartford and Springfield R'd.
 393
 Hats 2
 Hydriargos, the 10
 Heat of the planets 35
 Height of water in the lakes 35
 Heavens, a glance at the

- Physiology 109
Propelling vessels, novel method of 116
Pottery machine, agricultural, Eng. 2 figs. 145
Power loom 148, 188, 212
Pulley, the Eng. 184
Propelling cars 188
Paddle wheel 196, 292, 364
Percussion powder, Eng. 197
Power Loom shuttle 212
Pneumatic regulator, Eng. 220
Power in cotton Factories, economy of Eng. 229
237, 245, 254, 261, 269
Pneumatic telegraph and annunciator 236
File driver, Eng. 240
Percolating apparatus 244
Paine's steamboat 258
Parallel vice, Steven's 268
Perspectograph, a 238
Parallel Rule, 2 Engs. 268, 304
Pins, manuf. of 290
Pianos 316
Pratt and Morse's railroad brake Engs. 2 figs. 313, 356
Paper folder 324, 364
Plumb rule 324
Pneumatic steam gauge 348
Pumps for vessels 349
Paddle wheel 364
Planing machines, Bentham's 365
Pedemotive carriage, Eng. 5 figs. 369
Printing yarns, improvement in 387
Pans for making sugar 398
Power to raise water, to calculate the 390
Penholder for weak hands 392
Parasols, improved 412
Paddle wheel tortuous, Barker's Eng. 409
Preparation of ice, artificial 412
Preserving Milk, a process for 413
Piano roads 31, 321
Providence R'd. 217
Pacific R'd. 274
Phil. R'd. 239
Providence and Stonington R'd. 295
Pittsburgh and Connellsville R'd. 318
Penn. line 329
Penn. central R'd. 393
Paterson and Ramapo R'd. 373
Peter M. Deshong, Eng. 6, 54
Patent office, the 13, 141, 270, 285
Perseverance 18
Power 22
Plants, instinct of 48
Power of enduring heat 48
Patent cases 61, 69, 125, 189, 233, 317
Poultry, fattening 64
Platinum in France 92
Potatoes, substitute for 96
Pork and beef packing establishments 714
Plaster of Paris figures the appearance of marble, to give 120
Preserving pork 144
Propeller 146, 148, 244
Printing, the inventor of 148
Patents and patent laws 181
Pine 187
Patent laws and electric telegraphs 188
Paris academy of sciences 192
Paper mill in New Haven, the first 194
Pearl fishing 197
Phosphorescent bodies 234
Paving, new kind of 236
Potatoes 238, 291
Plum 243
Pigs 248
Phonographical progress 250
Pemican 251
Patent infringement 255
Potato bread 304
Peach tree, pruning 304
Patent office, report of th 306, 317
Potato disease 314
Paper hangings 324, 371
Peg manuf. 325
Pressure of air, to find the 336
Potato cure 346
Potato garden, model 347
Petrifaction ponds 366

Q
Quilts for writing, manufacture of 384
Quinine 326
Quebec R'd. 225
Quicksands, elephants in 150
Questions and answers 160

R
Relics 27, 34
Rome telescope, the 30
Riveting leather bands 52
Rifles, glasses for 206
Rugs pavement 229
Knife, the American 235
Rivets for pairs 238
Roof, cheap 238
Rain, prevalence of 22
Russian ink powder 64
Indigo blue, receipt for an ash vat for dyeing 129
Roof composition 138
Raw hides, tanning 212
Rosin, oil from 309
Resin and shellac, bleaching 316
Rhodium 323
Roman artificial pearls 323
Royal blue 344
Eivet machine 4, 240
Reaping machine 5, 12, 36, 156
Rope machine 20, 172
Rocking chair and fan 36
Rotary applied to steamboats 37

Rotary pump, Eng. 44, 187
Rope and pulley, Eng. 48
Ride, the 32, 91
Rocking chair 52
Railway carriage brakes 60
Rock drillers, improvements in 68
Rotary steam engines 75, 170, 212, 390
Railway engines and carriages, improvement in 102
Rail car spring 116
Rock driller 122
Railroad brake 124, 300
Rail, a newly invented 180
Rock driller, Wrightman and Vaughan's, Eng. 3 figs. 132, 140
Revolving shuttle box 149
Reaction water wheels, Engs. 149, 174, 182, 259, 270, 381
Reciprocating circular and rectilinear motion, Eng. 152
Rotary corn dryer 156
Rolling machine 196
Railroad car brake, Eng. 196, 260
Railway alarm 203
Richmond's patent collar 213
Rotary gymnastic wheel, Eng. 224
Rotary engine propelled by explosive gas 244
Rogue water 250
Rectilinear and circular motion, Eng. 272
Rug weaving, Eng. 283
Railroad chairs 293
Railway switches 303, 396
Rust pavement 319
Rectilinear motion and circular, Eng. 320
Regulator, the, Eng. 320
Roofing tiles, 324
Rat trap, new, Eng. 324
Rotary engine, steam and water, Eng. 345
Rolling machinery 364
Rotary engine, Tremper's, Eng. 389
Radiators, 388
Ruling paper, machine for 396
Reciprocating and circular motion, Eng. 400
Railroad receipts 241
Railway brake 4, 100, 149
Railroad accidents 5, 210
Railway viaduct in France, fall of a 6
Railway traffic in Eng. 9
Railroads of N. Y. State 21
R'd. survey 33
Railway cars in France 35
Railway bridge building 38
R'd. sale 41
R'd. bridge over the Merrimack 49
R'd. car and axle wheel 52
Randall's railway 32
Rivets 52
Railroad 58
R'd. riding 59
Railway signal 65
R'd route to the Pacific, new 81
Richmond and Ohio R'd. 89
Railway items 97
R'd. iron, improved method of making 102
R'ds. and scripture 105
R'ds. of the U. S. 161
R'd. wheel, new 180
R'ds. on the weather, influence of 181
Rail, newly invented 186
R'd bridge, model of a 188
R'ds. in the West 233
Railway sleepers 245
Rocks of Calvary, the 30
Rotary boot heel 92
Raspiny dye woods 92
Rail roads and steamships, distance of time 94
Rattlesnake bites 98, 115, 144
Reformed association of inventors, principles of the 99
Rolling mills 114
Rainbow 114
Rye bread baker 190
Rancid butter, to sweeten 181
Rigging of vessels 198
Ramsey the first steamboat builder 230
Riding in cars 237
Report of the commissioner of patents 245
Red hot magnet, a 250
Recovery of the apparent drowned, rules for 392

S
Shad, to boil 94
Steamboat signals 24
Silver, ductility of 40
Stylographic engraving 46
Splendid time piece 53
Suspension bridge, enormous 65
Surgical operation 66
Saw filing 76
Steam boilers 92, 186
Ships, huge 98, 139
Stone docks 125
Soap, manufacture of 132
Sun painted landscape 152
Squaring the circle 155
Silken sails for ships 164
Strange clock, antique 182
Sewers 188
Sun, image of the 208
Silver, engraving on 206
Ship building 236
Scallop 237
Steel from Iron and to soften and color steel, how to distinguish 248
Scenting a room 256
Steal rollers, tempering 256
Steaming and washing colored goods 272
Steel and iron, to clean 272
Strawberries, to preserve 315

Specimens from soundings, collections of 318
Simple syrups 360
Sarsaparilla syrup 360
Shells of war 396
Starch 21, 219
Sugar 26, 34, 106, 124, 178, 250, 262
Soap 32, 322
Steel, 60, 96, 155, 226
Steel engravings, to harden 72
Sugar manufacture, improvement in 122
Stone, artificial 123
Sulphur on iron, action of 133
Soap stone 138
Smelting by electricity 140
Southern metals 166
Steam, expansive, 197
Stearine candle 212
Sweet almond oil, to make 234
Spirit gas 239
Soap as manure 256
Silvering and gilding by powdered tin 264
Salts, neutral 275
Salts, metallic 275
Sand 290
Steam and gases, 301
Soap plant 312
Salt, medical uses of 323
Salt spring 327
Subterranean gasometer 331
Soap tree 334
Silicium 374
Stantone 379
Smelting copper ore by electricity 400
Sumac 403
Saltpeatre, manufacture of 408
Steam engine, improvement in the 3, 44, 188, 204
Schnebley's steam engine 4
Spiral bolt 4
Sofas 4, 76
Stethoscope, the 11
Steam plough 12
Stump machine 20
Self clearing anchor, Isaac and Watkins, Eng. 22
Smith's rotary engine, Eng. 2 figs. 25, 29
Scabbards 28
Sheet lead machine 28
Stone's bed sofa, Eng. 29, 34
Ship canal 29
Steamboat 45
Science and mechanical art, progress of 45
Self sharpening cultivator 52
Screw Key, Eng. 52
Speed, reduction of, Eng. 56
Swimming Skates 68
Spring curved plane, adjustable 84
Sphon condenser 92
Screw arrangements, Eng. 104
Snow plough, locomotive 106
Saw mill improvements 103
Self acting leg 109
Screw movement, Eng. 120
Submerged wind propeller 126
Safety valve 180
Spectacles 182
Stirling's air engine 184, 142
Saah fastener 140
Steering apparatus 140
Speaking machine 144
Street cleaning machine, Bishop's, Eng. 161
Steam gauge 162
Soles machine for cutting 172
Spinning machine 172
Steam boiler gauge 173
Safety lock 180
Steam and the steam engine 181
Sand paper, machine for manufacturing, Eng. 2 figs. 185
Steam carriage 188
Stamping metal plates, machine for, Eng. 5 figs. 201
Steam engine 212
Steam boilers, improv. in 220
Surgical discovery 220
Sewing machine 220, 243, 260, 292
Smut machine 220, 308
Steel pen renovator, Eng. 221
Stream, action of, Eng. 224
Sawing machines 228
Speaking trumpet 232
Spark arrester 244, 388
Steam boilers, alarm for 244, 316
Screw and paddle wheel 249
Spinning rollers 252
Sound, phenomena of, Eng. 253, 278
Sawmill clipper, Eng. 256
Signal, new 260
Steam engine, novelties in the 263, 301
Silvering looking glasses, machine for, Eng. 268
Sawing, improv. in 276
Shingling machine 284
Spirometer, improved 300
Stage dressing machines, improv. in 300
Science and art 307
Spoke machines 316, 389
Sawing machinery, improv. in Eng. 316
Saw mill gearing, improv. in 316
Shirt collar, patent 316
Stave, jointing 316
Steam boilers, hints on 326
Speaking telegraph 329
Stuffing boxes, improv. in 332
Steam engines, and price and power 333
Ship pump, working, Eng. 336
Steam hammer engine, Eng. 337
Sheet metal bending 364
Shingle shaving machine 384
Spoons 372
Steel and iron, to clean 272
Strawberries, to preserve 315

Specimens from soundings, collections of 318
Simple syrups 360
Sarsaparilla syrup 360
Shells of war 396
Starch 21, 219
Sugar 26, 34, 106, 124, 178, 250, 262
Soap 32, 322
Steel, 60, 96, 155, 226
Steel engravings, to harden 72
Sugar manufacture, improvement in 122
Stone, artificial 123
Sulphur on iron, action of 133
Soap stone 138
Smelting by electricity 140
Southern metals 166
Steam, expansive, 197
Stearine candle 212
Sweet almond oil, to make 234
Spirit gas 239
Soap as manure 256
Silvering and gilding by powdered tin 264
Salts, neutral 275
Salts, metallic 275
Sand 290
Steam and gases, 301
Soap plant 312
Salt, medical uses of 323
Salt spring 327
Subterranean gasometer 331
Soap tree 334
Silicium 374
Stantone 379
Smelting copper ore by electricity 400
Sumac 403
Saltpeatre, manufacture of 408
Steam engine, improvement in the 3, 44, 188, 204
Schnebley's steam engine 4
Spiral bolt 4
Sofas 4, 76
Stethoscope, the 11
Steam plough 12
Stump machine 20
Self clearing anchor, Isaac and Watkins, Eng. 22
Smith's rotary engine, Eng. 2 figs. 25, 29
Scabbards 28
Sheet lead machine 28
Stone's bed sofa, Eng. 29, 34
Ship canal 29
Steamboat 45
Science and mechanical art, progress of 45
Self sharpening cultivator 52
Screw Key, Eng. 52
Speed, reduction of, Eng. 56
Swimming Skates 68
Spring curved plane, adjustable 84
Sphon condenser 92
Screw arrangements, Eng. 104
Snow plough, locomotive 106
Saw mill improvements 103
Self acting leg 109
Screw movement, Eng. 120
Submerged wind propeller 126
Safety valve 180
Spectacles 182
Stirling's air engine 184, 142
Saah fastener 140
Steering apparatus 140
Speaking machine 144
Street cleaning machine, Bishop's, Eng. 161
Steam gauge 162
Soles machine for cutting 172
Spinning machine 172
Steam boiler gauge 173
Safety lock 180
Steam and the steam engine 181
Sand paper, machine for manufacturing, Eng. 2 figs. 185
Steam carriage 188
Stamping metal plates, machine for, Eng. 5 figs. 201
Steam engine 212
Steam boilers, improv. in 220
Surgical discovery 220
Sewing machine 220, 243, 260, 292
Smut machine 220, 308
Steel pen renovator, Eng. 221
Stream, action of, Eng. 224
Sawing machines 228
Speaking trumpet 232
Spark arrester 244, 388
Steam boilers, alarm for 244, 316
Screw and paddle wheel 249
Spinning rollers 252
Sound, phenomena of, Eng. 253, 278
Sawmill clipper, Eng. 256
Signal, new 260
Steam engine, novelties in the 263, 301
Silvering looking glasses, machine for, Eng. 268
Sawing, improv. in 276
Shingling machine 284
Spirometer, improved 300
Stage dressing machines, improv. in 300
Science and art 307
Spoke machines 316, 389
Sawing machinery, improv. in Eng. 316
Saw mill gearing, improv. in 316
Shirt collar, patent 316
Stave, jointing 316
Steam boilers, hints on 326
Speaking telegraph 329
Stuffing boxes, improv. in 332
Steam engines, and price and power 333
Ship pump, working, Eng. 336
Steam hammer engine, Eng. 337
Sheet metal bending 364
Shingle shaving machine 384
Spoons 372
Steel and iron, to clean 272
Strawberries, to preserve 315

Straightening card wire, machine for 380
Silvering Glass, new method of 412
Strainer for Pails, new 412
St. Lawrence and Atlantic R'd. 17, 57
Salem and Lowell R'd. 65
Street R'd., new 76
St. Andrew's and Quebec railway 105, 361
South western R'd. 161
Sackett's Harbor and Saratoga R'd. 289
Speed, comparison of 9
Sore throat 11
Sheath metal for sheathing 43
Steam improvement 44
Smithson 45
Saw mill, economical 45
Spindles 45
Star or planet, existence of a 46
Scale preventor 52
Shafts 52
Smithsonian Institute 53, 157, 322
Salt water worm 58
St. John's Mechanic's Institute 58
Scientific discovery 65
Steam printing, introduction of 66
Steam rotted hemp 67
Singing mouse 82
Sausages 82
Silverware, queer 96
Sensations in the air 88
Suspender buckles 100
Steam chronology 101
Silver 109
Scrubbing brushes 116
Smithson bequest, the 117
Sawdust, value of 123
Strange patent 124
Shooting fish, the 128
Spilling rock, curious mode of 130
Steam and water power 133
Steam in manufacturing, value of 133
Steam 139 192
Sponges 144
Salt 155 233
Steam boilers, explosions of 157
165 198 210 252 266
Ships, new light for 158
Sewers and cesspools 162
Snow, color of 163
Sun, exposure to the 174
Scientific memoranda 179 192
Scientific Knowledge 189
Science and its language 181
Sleeping 182
Spots in the Sun 195 322
Stockings 198
Sea Spray 200
Steam Wagon 203
Shot Tower 205
State mechanical repository 213
Stays, origin of 217
Screw driver 225
Sound visible 230
Sound destroyed by sound 240
Science and labor 261
Silk, manufacture of 282 330
Surveying 308
Sun flower, the 314
Sawing an invention before a patent is secured 317
Steam boilers 318
Saw set 322
Shingle manufactory 325
Sleepers for plank roads 325
Sand paper 332
Shoeing horses 346
Street lamps by electricity, lighting 360
Spoon not harshly 1
Strive on 49
Saturday Night 121
Speak Niagara 193
Sing on! sing on! 201
Spring 273

T
Telegraph posts 4
Thermal telescope, the 22
Tin and zinc, the motive power of 32
Time and longitude 102
Thermometers 107
Tanning, 116
Turning 132
Trituration phenomena 163
Teeth, artificial 180
Tissue, gold in the 328
Velocity of wheels, eng. 16
Vibrating circular motion, eng. 88
Vibrating lever and chain, eng. 144
Ventilometer, the 203
Vault covers, improv. in, engs. 3 figs. 244
Tin and zinc, the motive power of 32
Vacuum gauge, new steam 264
Vibrating lever and catch, eng. 312
Ventilation and chimney top 322
Viometer travelling register 332
Vertical and horizontal revolving motion, eng. 360
Vibratory and rectilinear motion eng. 376
Vt. and Mass. R'd. 25
Va. R'd.s. 57
Vicksburg R'd. and the Girard and U. Banks 345
Vulcanope 5
Ventilation 20 269
Vaccination and Small Pox 26
Volcanoes 67 99 150
Volcanic Lake 86
Velocity 163
Vegetable Manure 210
Vegetable Ivory 373
Velocity and Electricity 389
Water pipes 5
Watches 60, 61, 137, 216
Wooden legs 34
Washington monument, 2 Engravings, 38, 78
Wine varnish, white hard spirit of 72
Weaving 133
Woolens, printing 196
Wall fruits from insects, protecting 227
Wood reed, to dye, 312
Wine making in Portugal 392
Wool matress 392
Water as fuel 32

White lead with oil, action of 91
Wool with animal substances, to dye 136
White lead paint 244
Wisconsin copper ore 245
Whiskey from grain 290
Wood coloring 296
Wine, to restore sour or sharp 312
Wash for buildings 390
Wood patterns, varnish for 336
Wind's hydraulic engine, 1
Weather strips, patent 4
Whiffletree 20
Wood's patent 25
Water wheels, eng. 28, 34, 56, 76, 308
Wool burring machine 44
Wheat mill 59
Washing machines, 68, 76, 148
Winnowing machines 68
Window blind fasteners 92
Weaving looms, improv. in 94
Wheel fire engines 94
Wind mill ship, eng. 2 figs. 113
West and Thompson's coupling joint, eng. 124, 129, 230
Warlike invention 180
Washers, machine for cutting 132
Water ram 133
Water velocipede, eng. 136
Wrought nails, machine for making, 140
Water conveyance, first patent for 148
Wind mill, eng. 152
Wooden arm, eng. 168
Wind engine 176
Windlass, improved, eng. 188
Woodberry's improved grain separator, engs. 2 figs. 207, 212
Wheels, eng. 216
Wheat dibbling machine 238
Windmill, the 232
Window fastener 256
Window sash fasteners 252
Water, discharge of, eng. 252
Woodworth's patent, 263, 286, 306
Wire fence 285, 306
Whistle, railway and steamboat eng. 289
Water cement 292
Weaving, fancy 290, 307
Water, power of 338
Watch chain 339
Water pressure, eng. 344
Warps, dressing, eng. 352
Wooden railroads 381
Windlass, modification of the eng. 384
Window blinds 388
Wrought iron nails by machinery 389
Wagon tyres, machine for reducing 404
Western R'd. 1, 97
Whitney's R'd. 37, 105, 257
Western Atlantic R'd. 177
Wabash R'd. 185
Worcester and Nashua R'd. 361, 393
Wet Land, Improvement of 4
Wool in Ohio 5
Water 6 46
Wonders of Science 19
Water Power, new 36
Water Works of Marsailles 49
Warts 56
Wagon Shelving 70
Whiskey 88
Wild Geese, Ducks, &c. 106
Wheel Tires, Heating 108
Western Tool business 117
Wool and Cotton, preparing 124
Whooping Cough 128
Whole Meal and fine Flour 141
Whaling Business 162
Wind, indirect action of Eng 3 figs. 173
Weights and Measures 176
Washing Establishment 194
Winds, Currents, &c., Charts of 195
Woods set on fire by steam 202
Winter Garden 210
White Lead Painting, Substitute for 214
Water in Sea Cask and Cisterns 216
Winds of Ohio 225
Water, Power of 242
Water Cure 257
Window Sash Fasteners 252
Woodsworth's Patent, Claim of 269
Waste Steam, new use of 288
Wool and Cotton cleaning 308
Westphalia Hams 314
White Blackberries 360
Wheat and Bran 371
Water Rams, valves of 412
Yellow color, to dye 72, 328
Year and day machine 202, 204

Zinc 130, 168
Young Men 134 349
Yeast, German 168
Young Men and good books 195
Zoology 306
Zigzag motion, eng. 352

The List of Patents for each week will be found on the Fourth page of the paper.—This paper contains the List of Patents from the week ending September 18th, 1847, to the week ending September 5, 1848.

Pages 76 and 77 are misprinted 75 and 76. Articles on these pages are marked in the Index as if the pages 75 and 76 were pages 76 and 77.

